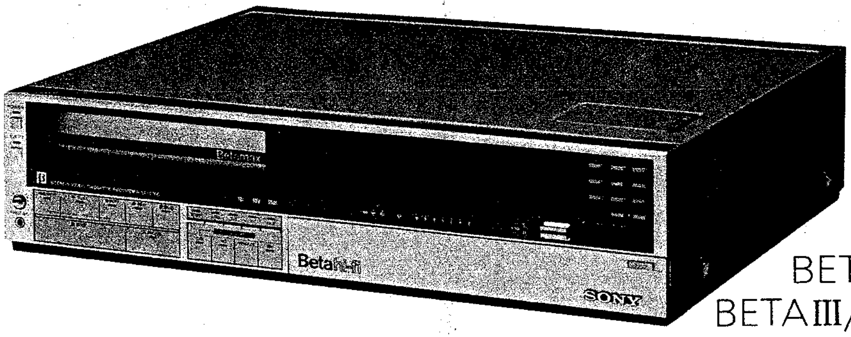
V13706

SL-2700/2700B
RMT-317

SERVICE MANUAL

US Model
Canadian Model
PX Model
E Model



BETA III/II RECORD
BETA III/II/I PLAYBACK

711D CHASSIS

May, 1983 **SL-2700B is available in the U. S. A. and Canada.**

Also refer to ADJUSTMENT MANUAL and OPERATION MANUAL.

SPECIFICATIONS

System

Video recording system	Rotary two-head helical scanning
Audio recording system	Beta hi-fi system (2 channels) (Recording on the conventional audio track is monaural)
Video signal	EIA standard, NTSC color
Usable cassettes	Cassettes having the mark β βIII: 1.33 cm/sec. βII: 2.0 cm/sec. βI: 4.0 cm/sec. (only for playback)
Maximum recording time	βIII: 5 hours βII: 3 hours 20 min. (with Sony L-830 cassette)
Fast forward and rewind time	Approx. 3½ min. (L-500)
Audio frequency response	Beta hi-fi OFF βII: 50 - 10,000 Hz βIII: 50 - 7,000 Hz Bata hi-fi ON βII, βIII: 20 - 20,000 Hz
Wow and flutter	Beta hi-fi ON Less than 0.005% WRMS
Dynamic range	Beta hi-fi ON More than 80 dB

Tuner section

Channel coverage	VHF channels 2 - 13 UHF channels 14 - 83 CATV mid-band channels A-2, A-1, A through I, super-band channels J through W
VHF output signal	Channel 3 or 4 (selectable) 75 ohms, unbalanced
Antenna	75-ohm antenna terminal for VHF IN ANT/CABLE, TO CONV and AUX 300-ohm antenna terminals for UHF

Inputs and outputs

Video output	Phono jack (1) 1 V p-p ±0.5 V p-p, 75 ohms, unbalanced, sync negative
Video output	Phono jack (1) 1 V p-p ±0.5 V p-p, 75 ohms, unbalanced, sync negative
Audio input	Phono jacks (2) −10 dBs (0 dBs = 0.775 V rms), more than 47 k ohms
Audio output	Phono jacks (2) −10 dBs (at load impedance 47 k ohms) More than 10 k ohms
Camera connector	14-pin K-type connector (1) Video in: 1 V p-p ±0.5 V p-p 75 ohms, unbalanced, sync negative Video out: 1 V p-p ±0.5 V p-p 75 ohms unbalanced, sync negative Audio in: −20 dBs Audio out: −5 dBs Power supply output: 12 V dc
Mircophone input	Minijacks (2) −60 dBs, for low-impedance microphone
Headphone jack	Stereo minijack (1) −26 dBs, 8 ohms

— Continued on next page —

Beta
β VIDEOCASSETTE RECORDER
SONY®

MICROFILM

Consumer VIDEO

Timer section

Clock	Quartz-lock system
Time indication	12-hour cycle
Timer setting	Only to start and stop recording 4 programs can be set over 14 days.
Power back up	Self-charging battery incorporated Back-up duration : up to 60 minutes at one time (after the battery has been charged at least 40 hours.)

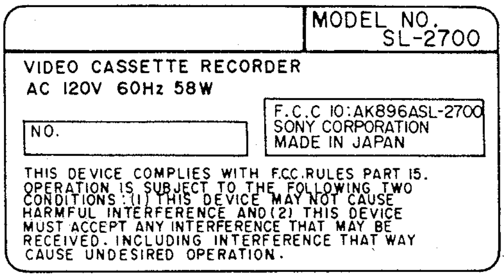
General

Power requirements	120 V ac ±10%, 60 Hz ±0.5% (PX model : 50/60 Hz ±0.5%)
Power consumption	38 W (VCR) 58 W (max. with accessories)
AC outlet	Unswitched max. 400 W
Operating temperature	5°C to 40°C (41°F to 104°F)
Storage temperature	−20°C to +65°C (4°F to +149°F)
Dimensions	Approx. 430 × 105 × 355 mm (w/h/d) (17 × 4¼ × 14 inches) incl. projecting parts and controls
Weight	Approx. 11.2 kg (24 lb 11 oz) net

Accessories supplied

Betamex video cassette tape	1
External antenna connector EAC-25 (300-ohm to 75-ohm matching transformer)	1
75-ohm coaxial cable with F-type connectors (2 m, 6 feet)	1
300-ohm twin lead (2 m, 6 feet)	1
Connecting cord RK-74A	1
Remote Commander RMT-317 with two size AA batteries	1
Channel number segments	1 set

US Model and a part of Canadian Model



MODEL NO.
SL-2700

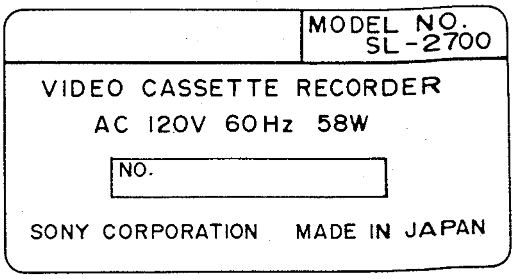
VIDEO CASSETTE RECORDER
AC 120V 60Hz 58W

NO.

F.C.C IO:AK896ASL-2700
SONY CORPORATION
MADE IN JAPAN

THIS DEVICE COMPLIES WITH F.C.C.RULES PART 15. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS : (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE AND(2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE THAT MAY BE RECEIVED. INCLUDING INTERFERENCE THAT WAY CAUSE UNDESIRED OPERATION.

Canadian and E Model



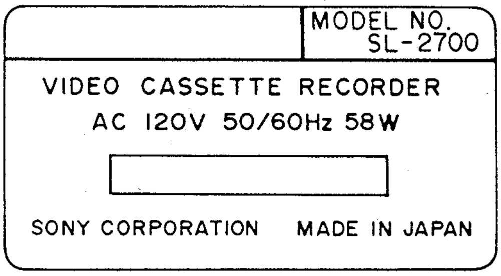
MODEL NO.
SL-2700

VIDEO CASSETTE RECORDER
AC 120V 60Hz 58W

NO.

SONY CORPORATION MADE IN JAPAN

PX Model



MODEL NO.
SL-2700

VIDEO CASSETTE RECORDER
AC 120V 50/60Hz 58W

SONY CORPORATION MADE IN JAPAN

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the line cord for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
6. Check the B+ voltage to see it is at the values specified.
7. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

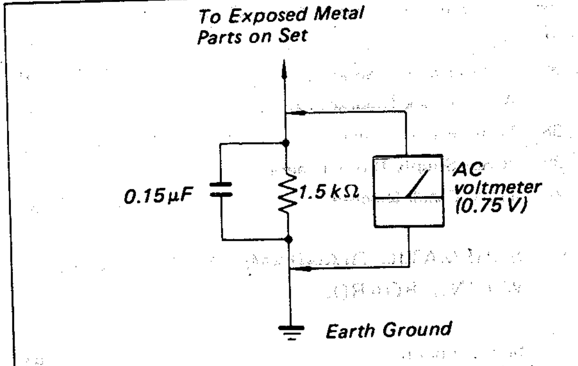


Fig. A. Using an AC voltmeter to check AC leakage.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÉS PAR UN TRAME ET UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES, LES VUES EXPLOSÉES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS MANUEL OU DES SUPPLÉMENTS PUBLIÉS PAR SONY. LES RÉGLAGES DU CIRCUIT QUI SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT SONT IDENTIFIÉS DANS CE MANUEL. SUIVRE LES PROCÉDURES QUAND LES COMPOSANTS CRITIQUES SONT REMPLACÉS OU LE FONCTIONNEMENT IMPROPRE EST SUSPECTÉ.

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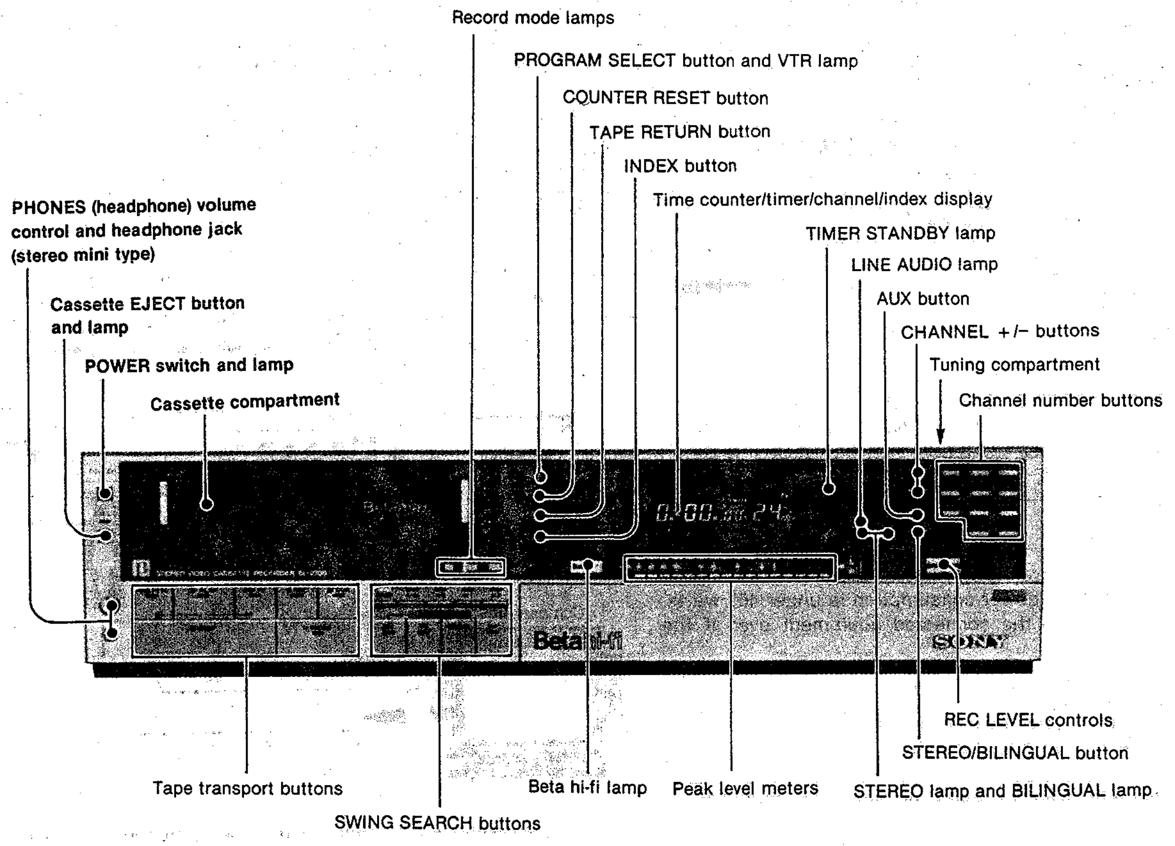
REMOTE COMMANDER RMT-317 221

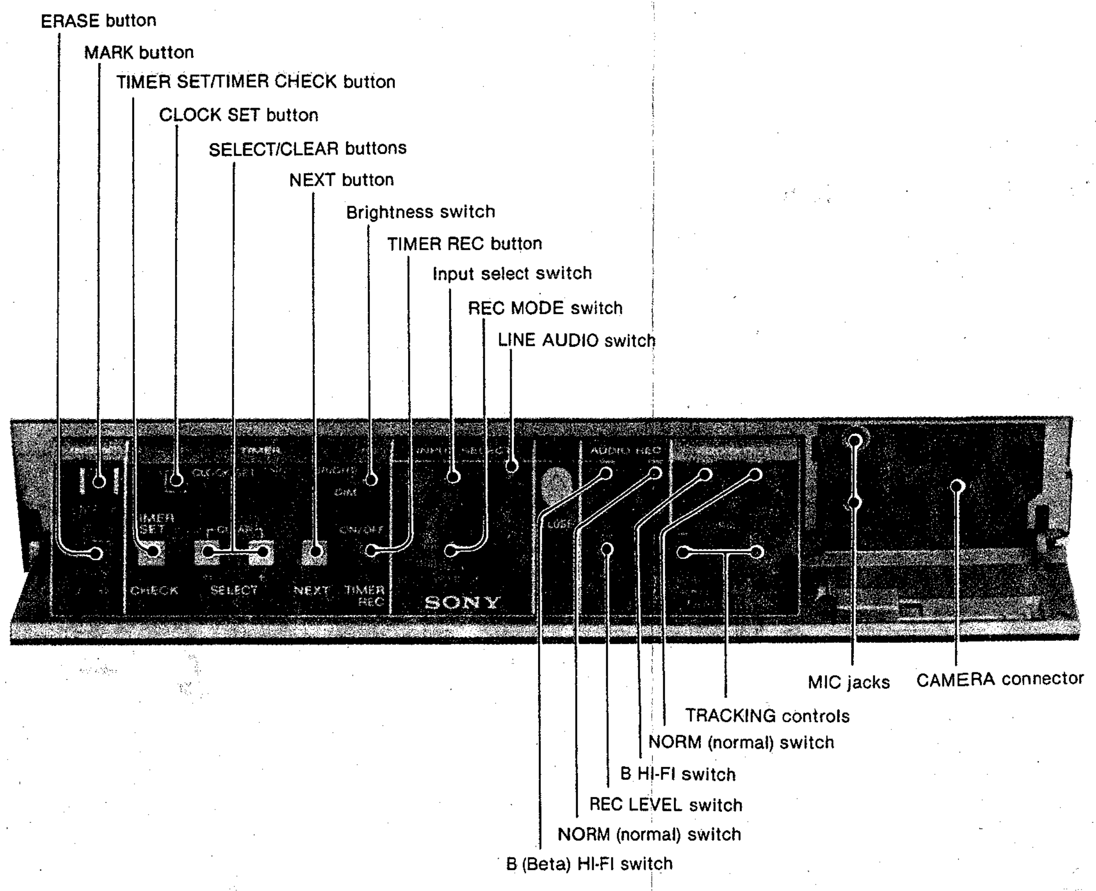
SECTION 1
GENERAL

1-1. FUNCTION OF PARTS AND CONTROLS



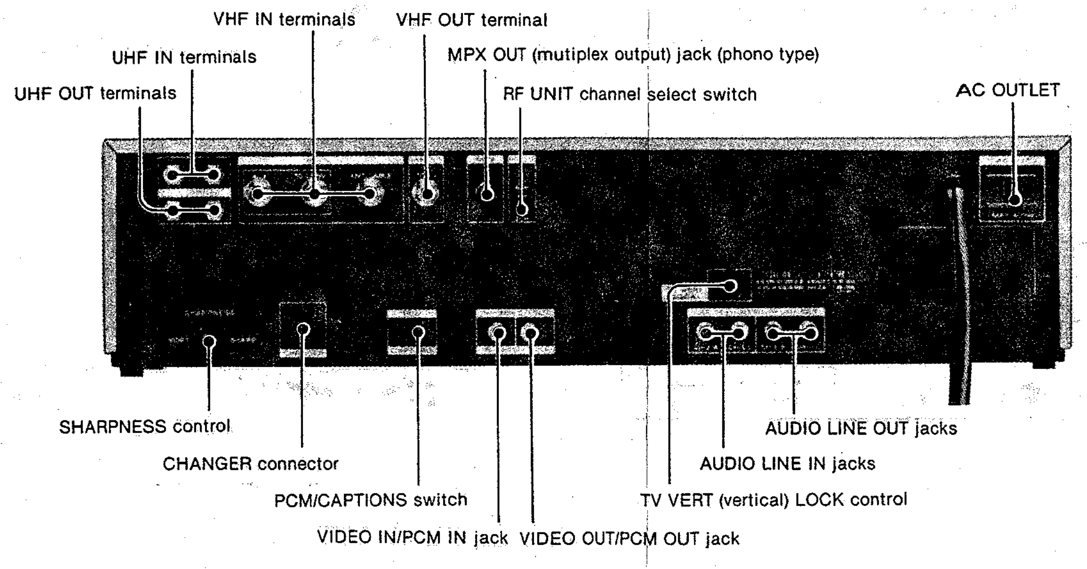
Record mode lamps
PROGRAM SELECT button and VTR lamp
COUNTER RESET button
TAPE RETURN button
INDEX button
Time counter/timer/channel/index display
TIMER STANDBY lamp
LINE AUDIO lamp
AUX button
CHANNEL +/– buttons
Tuning compartment
Channel number buttons
PHONES (headphone) volume control and headphone jack (stereo mini type)
Cassette EJECT button and lamp
POWER switch and lamp
Cassette compartment
REC LEVEL controls
STEREO/BILINGUAL button
Tape transport buttons
Beta hi-fi lamp
Peak level meters
STEREO lamp and BILINGUAL lamp
SWING SEARCH buttons
SONY
Beta hi-fi

Behind front panel



ERASE button
MARK button
TIMER SET/TIMER CHECK button
CLOCK SET button
SELECT/CLEAR buttons
NEXT button
Brightness switch
TIMER REC button
Input select switch
REC MODE switch
LINE AUDIO switch
MIC jacks
CAMERA connector
TRACKING controls
NORM (normal) switch
B HI-FI switch
REC LEVEL switch
NORM (normal) switch
B (Beta) HI-FI switch
SONY

Rear panel



VHF IN terminals
VHF OUT terminal
UHF IN terminals
MPX OUT (mutiplex output) jack (phono type)
UHF OUT terminals
RF UNIT channel select switch
AC OUTLET
SHARPNESS control
CHANGER connector
PCM/CAPTIONS switch
VIDEO IN/PCM IN jack
VIDEO OUT/PCM OUT jack
AUDIO LINE OUT jacks
AUDIO LINE IN jacks
TV VERT (vertical) LOCK control

1-2. CONNECTIONS

Before making connections

- Turn off the TV.
- Connect the ac power cord after all the connections of the video cassette recorder and the TV have been completed.
- Make connections firmly. A loose connection may cause a distorted picture.

ANTENNA/CABLE CONNECTION

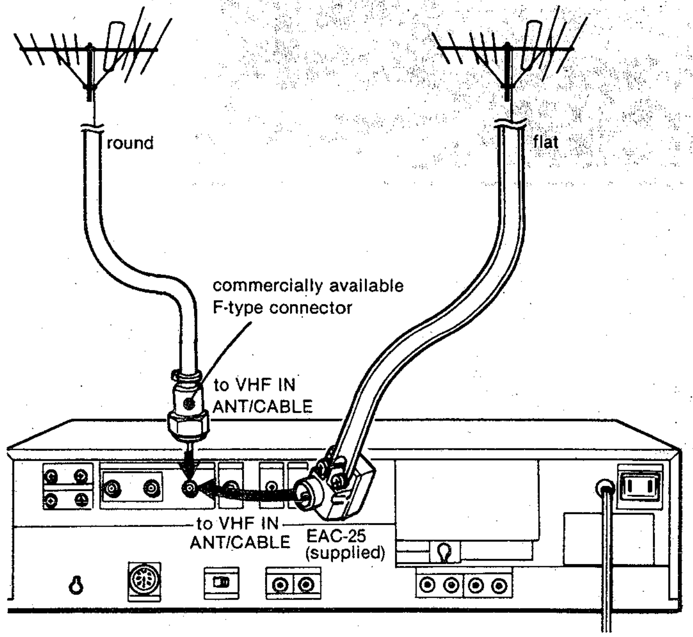
ANTENNA CONNECTION

Disconnect the TV antenna cables from the TV receiver and connect them to the recorder.

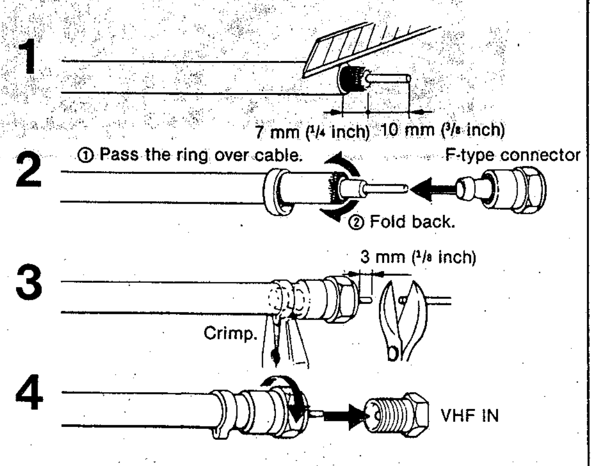
VHF antenna

If the cable is a round 75-ohm coaxial cable

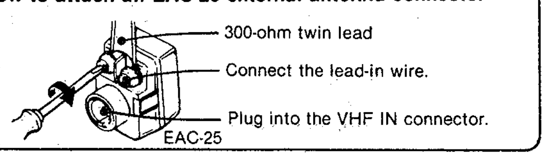
If the cable is a flat 300-ohm twin lead


round
flat
commercially available
F-type connector
to VHF IN
ANT/CABLE
to VHF IN
ANT/CABLE
EAC-25
(supplied)

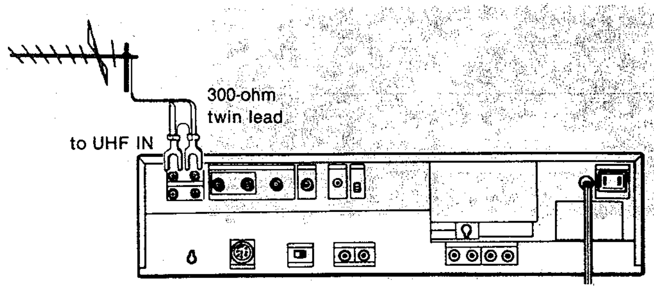
How to attach an F-type connector


1
7 mm (¹/₄ inch)
10 mm (³/₈ inch)
2
① Pass the ring over cable.
F-type connector
② Fold back.
3
3 mm (¹/₈ inch)
Crimp.
4
VHF IN

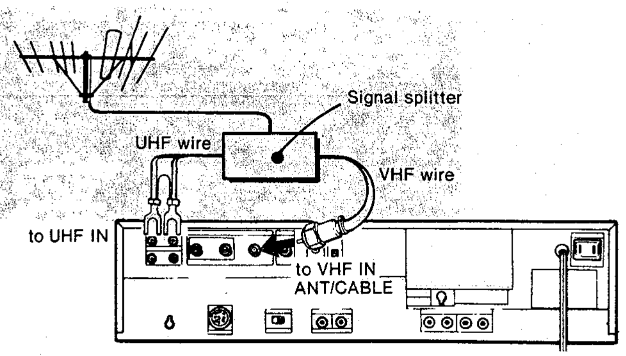
How to attach an EAC-25 external antenna connector


300-ohm twin lead
Connect the lead-in wire.
Plug into the VHF IN connector.
EAC-25

UHF antenna

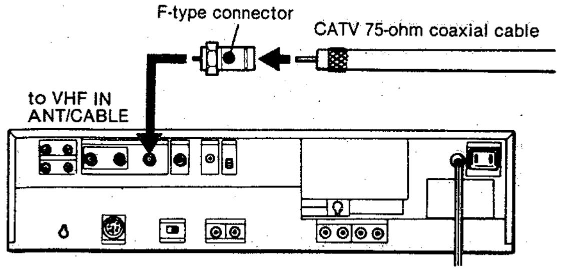

300-ohm
twin lead
to UHF IN

Combination VHF/UHF antenna


Signal splitter
UHF wire
VHF wire
to UHF IN
to VHF IN
ANT/CABLE

Most combination antennas are equipped with a signal splitter. If you need a splitter or a complete antenna system, see your Sony dealer or a qualified technician.

CATV CABLE CONNECTION

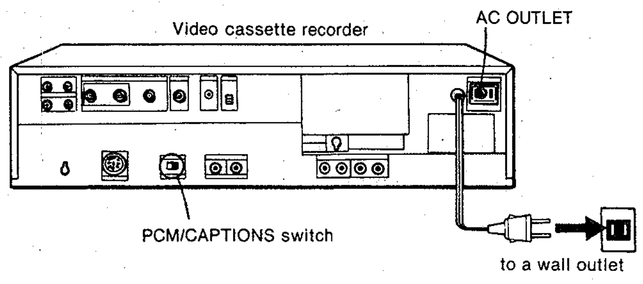

F-type connector
CATV 75-ohm coaxial cable
to VHF IN
ANT/CABLE

We recommend that you consult your cable company to make sure that the cable is properly connected.

Note to CATV system installer in the U.S.A. :

This reminder is provided to call the CATV system installer's attention to Article 820-22 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

POWER CONNECTION


Video cassette recorder
AC OUTLET
PCM/CAPTIONS switch
to a wall outlet

CAUTION :

TO PREVENT ELECTRIC SHOCK, DO NOT USE THE POLARIZED AC PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

AC OUTLET

This socket provides a convenient ac power source for other video or audio equipment whose power consumption is under 400 watts. Power will be supplied to the connected equipment even if the recorder is turned off.

Caution

Do not connect here any electrical home appliances whose power consumption exceeds 400 watts, such as an electric iron or fan.

For customers who want to record or play back captioned programs

Remove the cover of the PCM/CAPTIONS switch at the rear and set the switch to the left position.

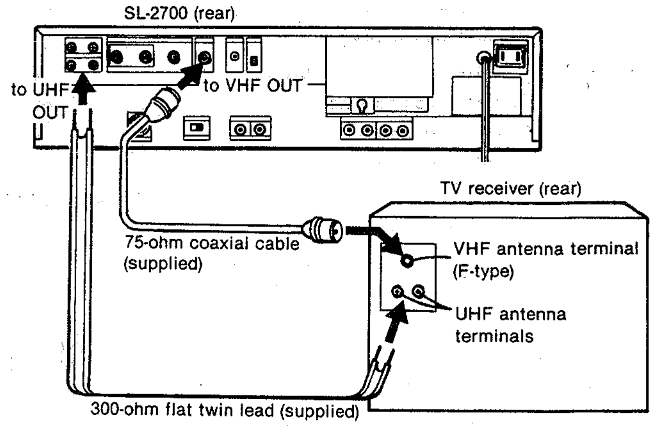
If the switch remains in the right position, closed captions will not be recorded or played back.

CONNECTING THE TV RECEIVER

Connecting a conventional TV reciever

Once the connections shown below have been made, the antenna TV signals, as well as the signal from the recorder, will be fed to the TV and you can view TV programs in the usual way.

- Use an optional RFC-8 extension cable (available in the U.S.A and Canada), 8 m (25 ft) long, if the supplied 75-ohm coaxial cable is not long enough.


SL-2700 (rear)
to UHF OUT
to VHF OUT
TV receiver (rear)
75-ohm coaxial cable
(supplied)
VHF antenna terminal
(F-type)
UHF antenna
terminals
300-ohm flat twin lead (supplied)

Caution

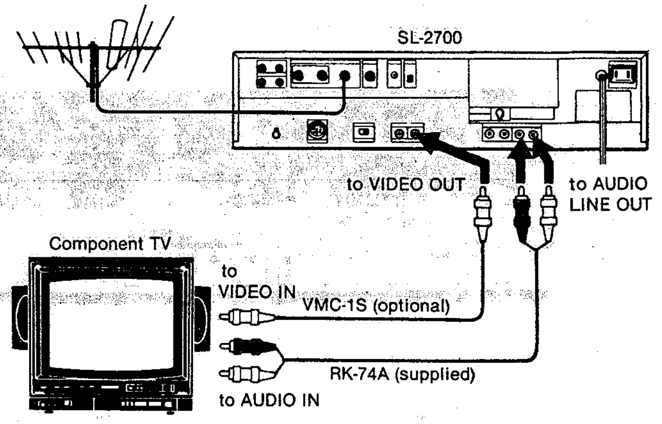
Connections between the recorder VHF OUT connector and the antenna terminals of a TV receiver should be made only as shown in these instructions. Failure to do so may result in operation that violates the regulations of the Federal Communications Commission regarding the use and operation of rf devices.

Never connect the output of the recorder to an antenna or make simultaneous (parallel) antenna and recorder connections at the antenna terminals of your receiver.

Connecting a color monitor

To obtain a better-quality picture, connect a color monitor, such as the Sony Profeel Trinitron Component TV, instead of a conventional TV receiver.

When a component TV is combined with the speaker system as illustrated, you can enjoy tapes recorded with Beta hi-fi stereo.


SL-2700
to VIDEO OUT
to AUDIO
LINE OUT
Component TV
to
VIDEO IN
VMC-1S (optional)
RK-74A (supplied)
to AUDIO IN

If you use a component TV tuner together with the monitor, connect the recorder and the TV tuner in the same way as in the case of the recorder and the conventional TV receiver described on the previous page. For details on the connection of the TV tuner and the monitor, refer to the instruction manual of the TV tuner.

1-2. CONNECTIONS

Before making connections

- Turn off the TV.
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- Make connections firmly. A loose connection may cause a distorted picture.

ANTENNA/CABLE CONNECTION

ANTENNA CONNECTION

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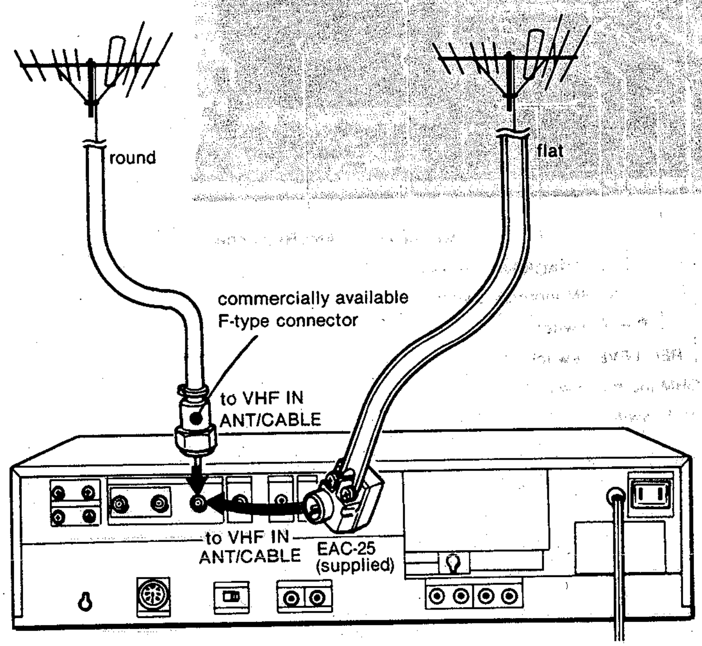
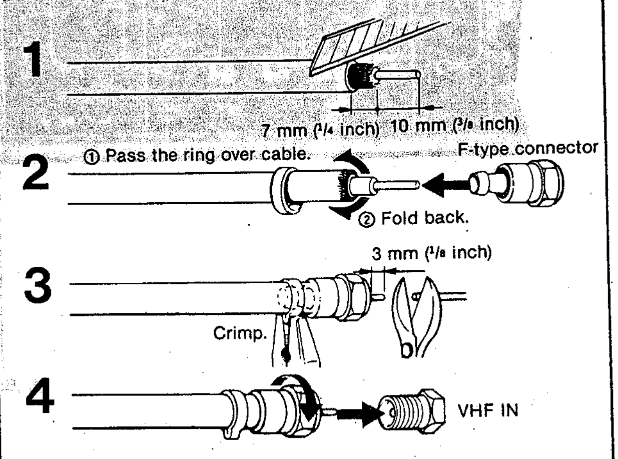
VHF antenna

If the cable is a round 75-ohm coaxial cable

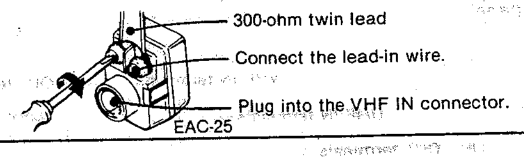
If the cable is a flat 300-ohm twin lead


round
flat
commercially available
F-type connector
to VHF IN
ANT/CABLE
to VHF IN
ANT/CABLE
EAC-25
(supplied)

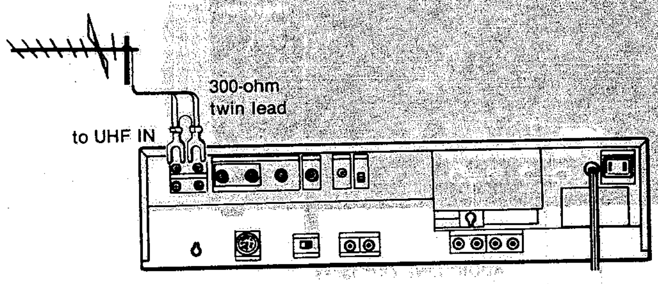
How to attach an F-type connector


1
7 mm (1/4 inch)
10 mm (3/8 inch)
2
① Pass the ring over cable.
② Fold back.
F-type connector
3
3 mm (1/8 inch)
Crimp.
4
VHF IN

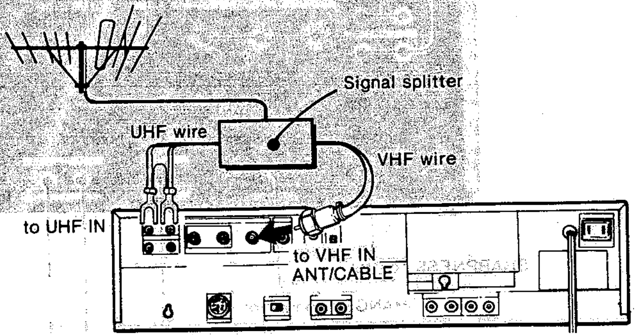
How to attach an EAC-25 external antenna connector


300-ohm twin lead
Connect the lead-in wire.
Plug into the VHF IN connector.
EAC-25

UHF antenna

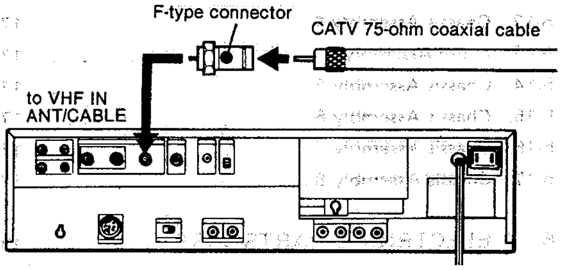

300-ohm
twin lead
to UHF IN

Combination VHF/UHF antenna


Signal splitter
UHF wire
VHF wire
to UHF IN
to VHF IN
ANT/CABLE

Most combination antennas are equipped with a signal splitter.
If you need a splitter or a complete antenna system, see your Sony dealer or a qualified technician.

CATV CABLE CONNECTION

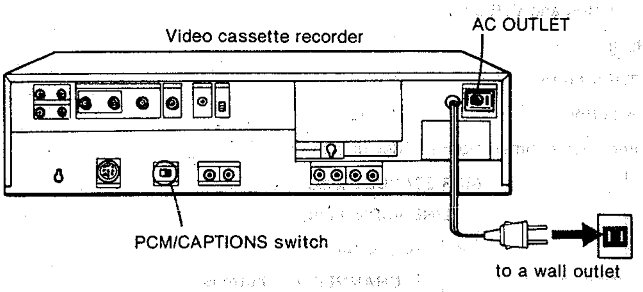

F-type connector
CATV 75-ohm coaxial cable
to VHF IN
ANT/CABLE

We recommend that you consult your cable company to make sure that the cable is properly connected.

Note to CATV system installer in the U.S.A.:

This reminder is provided to call the CATV system installer's attention to Article 820-22 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

POWER CONNECTION


Video cassette recorder
AC OUTLET
PCM/CAPTIONS switch
to a wall outlet

CAUTION:

TO PREVENT ELECTRIC SHOCK, DO NOT USE THE POLARIZED AC PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

AC OUTLET

This socket provides a convenient ac power source for other video or audio equipment whose power consumption is under 400 watts. Power will be supplied to the connected equipment even if the recorder is turned off.

Caution

Do not connect here any electrical home appliances whose power consumption exceeds 400 watts, such as an electric iron or fan.

For customers who want to record or play back captioned programs

Remove the cover of the PCM/CAPTIONS switch at the rear and set the switch to the left position.

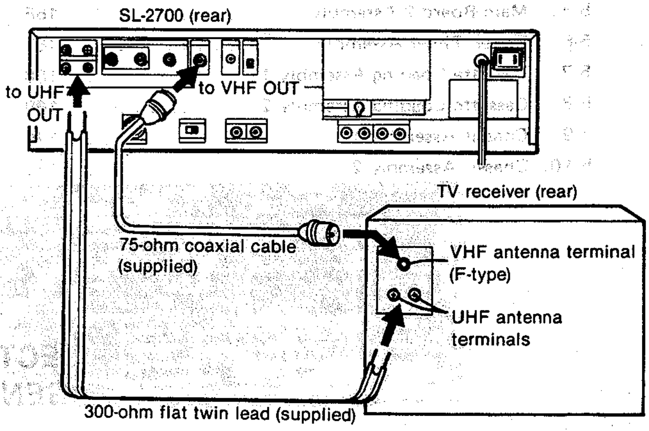
If the switch remains in the right position, closed captions will not be recorded or played back.

CONNECTING THE TV RECEIVER

Connecting a conventional TV reciever

Once the connections shown below have been made, the antenna TV signals, as well as the signal from the recorder, will be fed to the TV and you can view TV programs in the usual way.

- Use an optional RFC-8 extension cable (available in the U.S.A and Canada), 8 m (25 ft) long, if the supplied 75-ohm coaxial cable is not long enough.


SL-2700 (rear)
to UHF OUT
to VHF OUT
TV receiver (rear)
75-ohm coaxial cable (supplied)
VHF antenna terminal (F-type)
UHF antenna terminals
300-ohm flat twin lead (supplied)

Caution

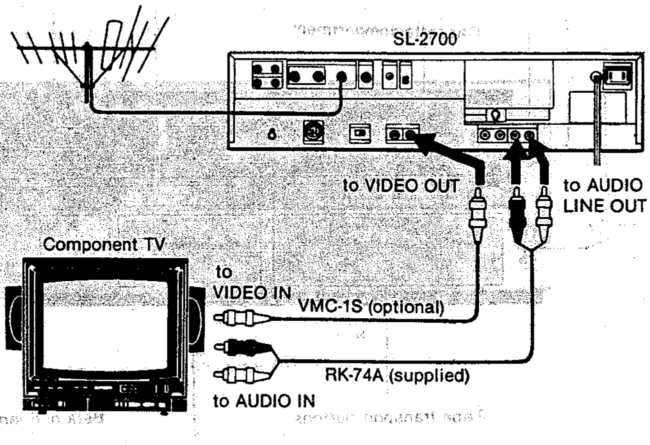
Connections between the recorder VHF OUT connector and the antenna terminals of a TV receiver should be made only as shown in these instructions. Failure to do so may result in operation that violates the regulations of the Federal Communications Commission regarding the use and operation of rf devices.

Never connect the output of the recorder to an antenna or make simultaneous (parallel) antenna and recorder connections at the antenna terminals of your receiver.

Connecting a color monitor

To obtain a better-quality picture, connect a color monitor, such as the Sony Profeel Trinitron Component TV, instead of a conventional TV receiver.

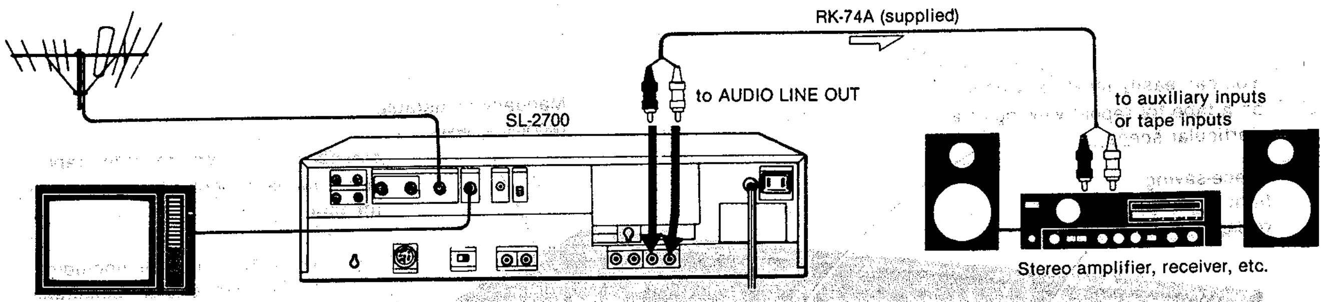
When a component TV is combined with the speaker system as illustrated, you can enjoy tapes recorded with Beta hi-fi stereo.


SL-2700
to VIDEO OUT
to AUDIO LINE OUT
Component TV
to VIDEO IN
VMC-1S (optional)
RK-74A (supplied)
to AUDIO IN

If you use a component TV tuner together with the monitor, connect the recorder and the TV tuner in the same way as in the case of the recorder and the conventional TV receiver described on the previous page. For details on the connection of the TV tuner and the monitor, refer to the instruction manual of the TV tuner.

CONNECTION TO AN AUDIO SYSTEM

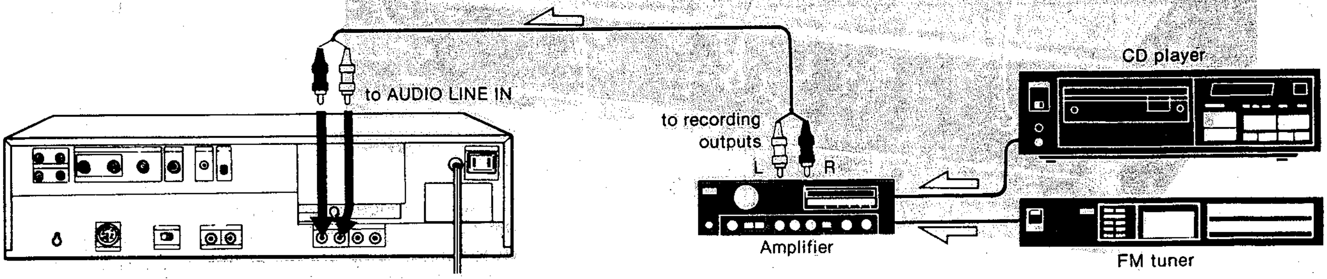
You can enjoy tapes recorded with Beta hi-fi stereo when the recorder is connected to your audio system.



RK-74A (supplied)
to AUDIO LINE OUT
SL-2700
to auxiliary inputs or tape inputs
Stereo amplifier, receiver, etc.

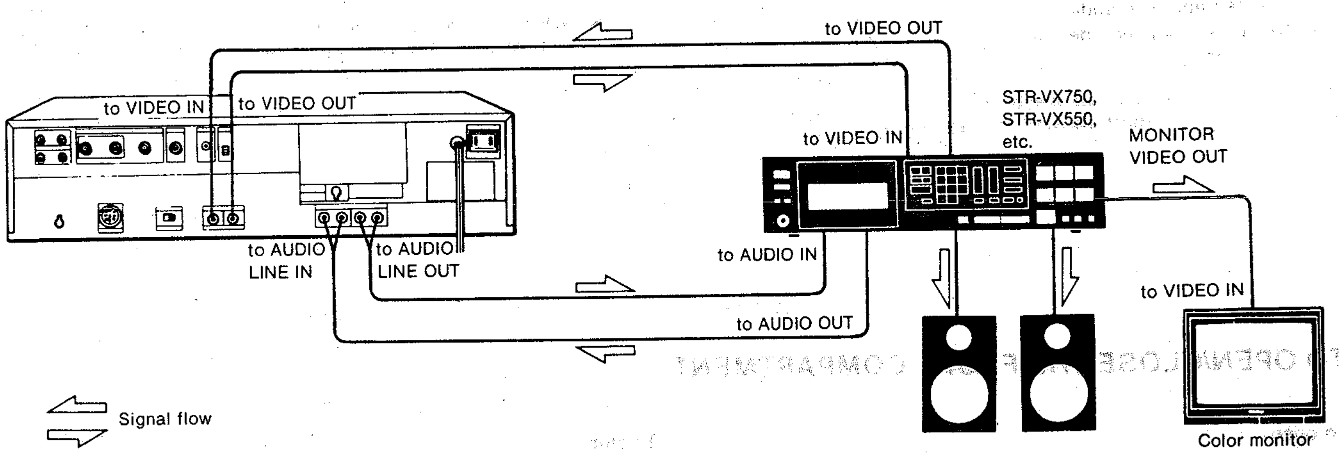
To record audio signals from your audio system

You can record audio source such as an FM tuner, CD player, with the Beta hi-fi system without recording video signals.



to AUDIO LINE IN
to recording outputs
L
R
CD player
Amplifier
FM tuner

Connection to the receiver equipped with the VIDEO connectors (available in the U.S.A. and Canada)



to VIDEO OUT
to VIDEO IN
to VIDEO OUT
STR-VX750,
STR-VX550,
etc.
to VIDEO IN
MONITOR VIDEO OUT
to AUDIO LINE IN
to AUDIO LINE OUT
to AUDIO IN
to AUDIO OUT
to VIDEO IN
Color monitor
Signal flow

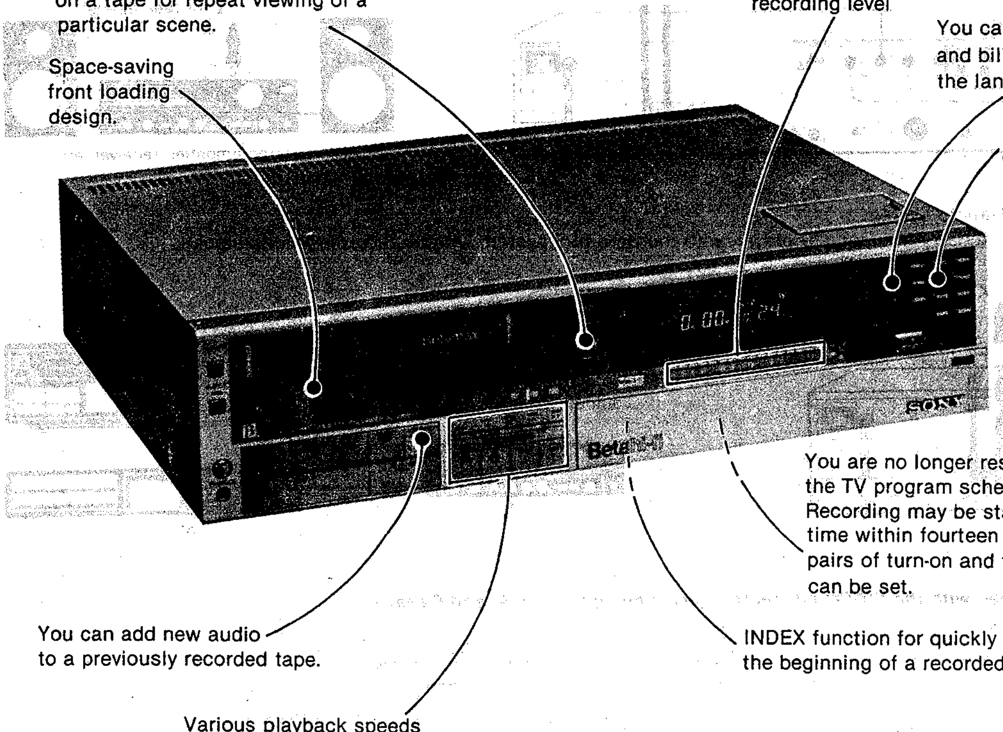
For details, see the instruction manual of the receiver.

Notes

- Installing the VCR near the tuner or the radio, noise may be heard in AM reception. In this case, keep the VCR away from the tuner or the radio, adjust the AM bar antenna for minimum noise, or connect an external AM antenna to the tuner.
- Before connecting or disconnecting the power cord of the VCR, be sure to turn the connected amplifier off.

1-3. NEW FULL-FEATURE BETA HI-FI VIDEO CASSETTE RECORDER

High quality sound reproduction with low noise, minimum wow and flutter, wide dynamic range and flat frequency response is possible thanks to the Beta hi-fi recording system.



You can easily locate any point on a tape for repeat viewing of a particular scene.

Space-saving front loading design.

Manually adjustable recording level

You can enjoy stereo recorded tapes and bilingual program tapes, selecting the language.

Up to 107 channels (including CATV channels) are selectable. Easy selection of any channel or of your favorite preset channels, using the channel number buttons or the +/– buttons.

You are no longer restricted by the TV program schedule. Recording may be started at any time within fourteen days, and 4 pairs of turn-on and turn-off times can be set.

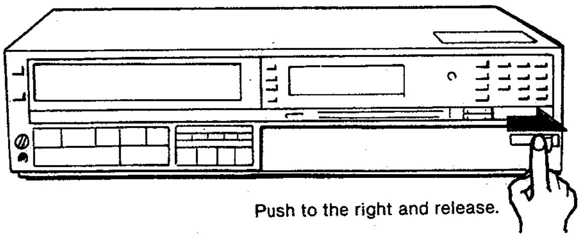
You can add new audio to a previously recorded tape.

INDEX function for quickly locating the beginning of a recorded program

Various playback speeds both forward and reverse.

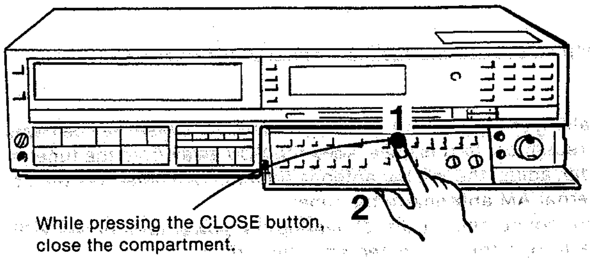
TO OPEN/CLOSE THE FRONT COMPARTMENT

To open



Push to the right and release.

To close

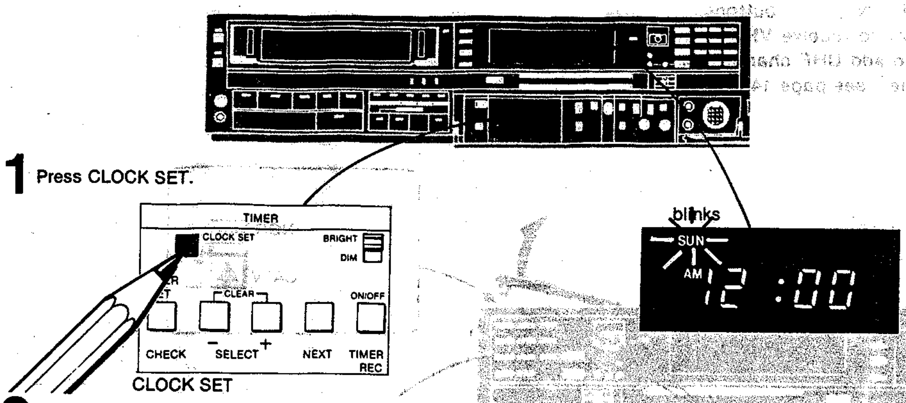


While pressing the CLOSE button, close the compartment.

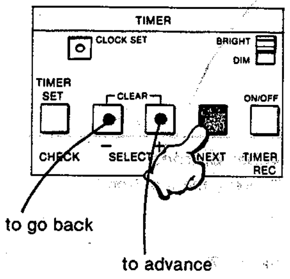
1-4. SETTING THE CLOCK

Example: To set the clock to 7:30 p.m. Monday.
The clock can be set as long as the power cord is connected to the ac outlet.

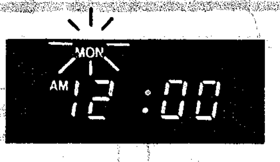
1 Press CLOCK SET.


TIMER
CLOCK SET
BRIGHT
DIM
CLEAR
ON/OFF
CHECK
SELECT
NEXT
TIMER REC
CLOCK SET
blinks
SUN
AM
12:00

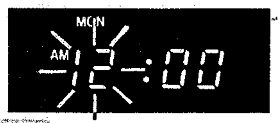
2 Press +/– buttons to adjust the blinking indication and press NEXT.


TIMER
CLOCK SET
BRIGHT
DIM
TIMER SET
CLEAR
ON/OFF
CHECK
SELECT
NEXT
TIMER REC
to go back
to advance

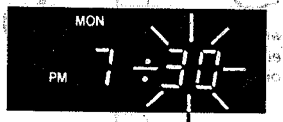
① Set the day of the week.



② Press NEXT.

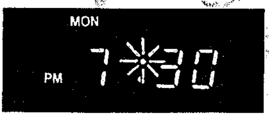


③ Set the hour digit and press NEXT, and set the minute digits.



AM 12:00 ... midnight
PM 12:00 ... noon

④ With the time signal press NEXT.



The clock now starts operating, showing the correct time.

The upper dot blinks during the first half and the lower during the second half of each minute.

Note

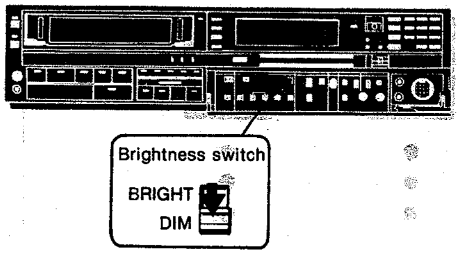
The + and – buttons can be pressed in two ways:

When you hold a button down, the segments will be advanced continuously until the button is released.

When you press and immediately release a button, the segment will be advanced by one.

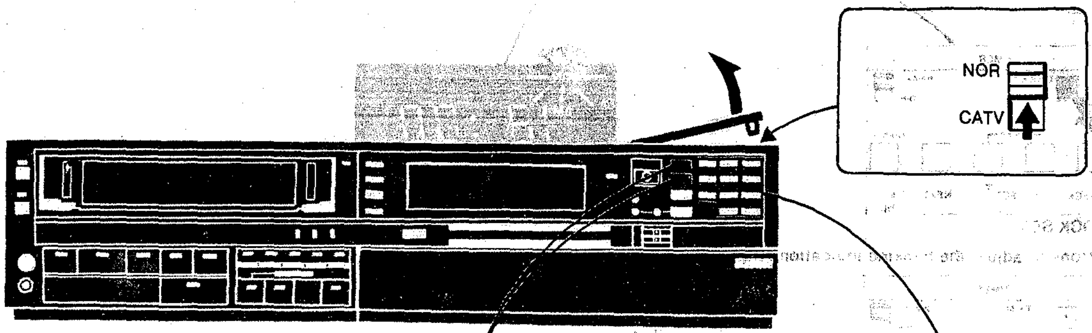
Brightness of the time display

To reduce the brightness of the time display, set the brightness switch to DIM.

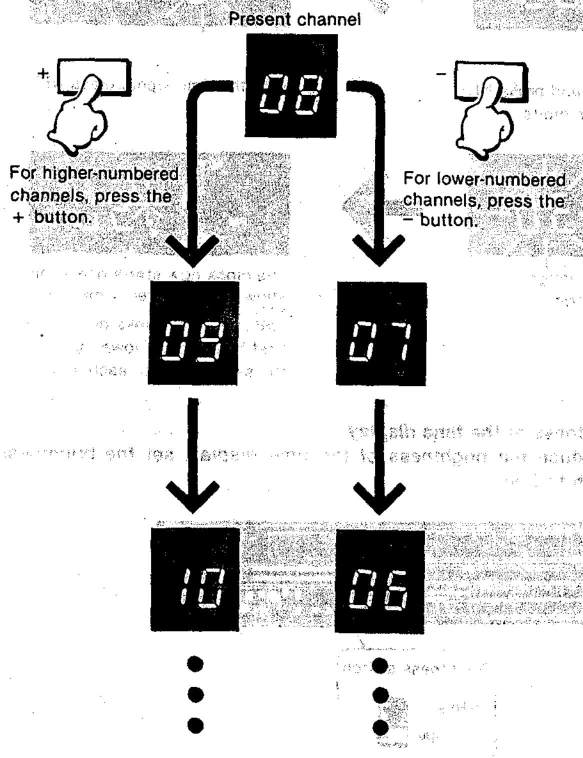

Brightness switch
BRIGHT
DIM

1-5. HOW TO SELECT TV CHANNELS

You can select the desired channel by pressing the appropriate channel number buttons, or by scanning higher or lower among the prememorized channels with the CHANNEL +/– buttons.
This recorder is preset at the factory to receive VHF channels 2 through 13 with the +/– buttons. To add UHF channels or CATV channels, or to erase inactive channels see page 14.



Using the +/– buttons



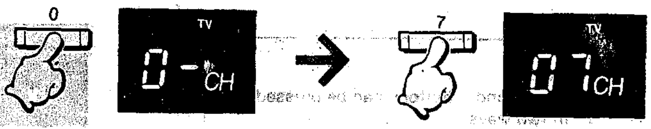
For higher-numbered channels, press the + button.

For lower-numbered channels, press the – button.

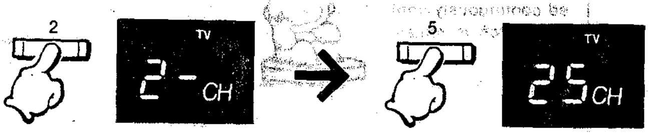
Using the channel number buttons

For channels 2 through 9, press the 0 button first.

ex. 1 : To select VHF channel 7



ex. 2 : To select UHF channel 25



If you select an incorrect tens-digit, or forget to first press 0 for channels 2 through 9, wait about two seconds so that the previous number display is recalled, or press the CLEAR button.

TO SELECT CATV CHANNELS

Set the NOR/CATV select switch to CATV. This recorder receives midband channels A-1, A-2, A through I and super-band channels J through W.
Channel A-2 can be tuned in by selecting number 00 on this recorder, channel A-1 by selecting number 01, channel A by selecting number 14, and so on, as follows:

Number on this recorder	00	01	14	15	16	17	18	19	20	21	22
Corresponding CATV channel	A-2	A-1	A	B	C	D	E	F	G	H	I

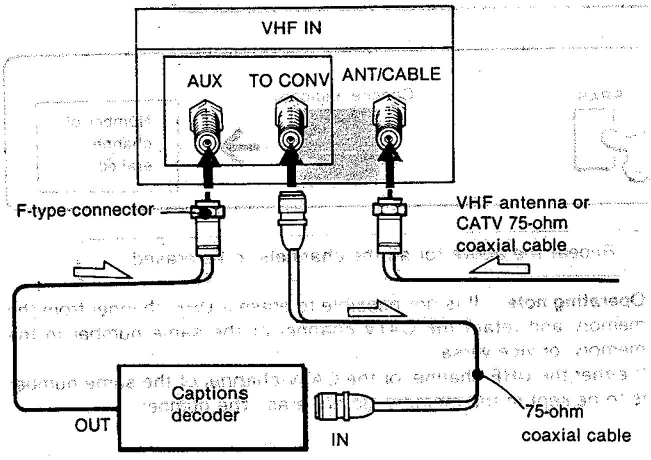
23	24	25	26	27	28	29	30	31	32	33	34	35	36
J	K	L	M	N	O	P	Q	R	S	T	U	V	W

Most CATV sytems use letters to designate channels but some use numbers. To tune in a numbered channel, select the same number on the recorder.
Consult your local cable TV company or your nearest Sony dealer to find out which of these channels are receivable and which type of cable system is used in your area.

PROGRAMMABLE ANTENNA SWITCH

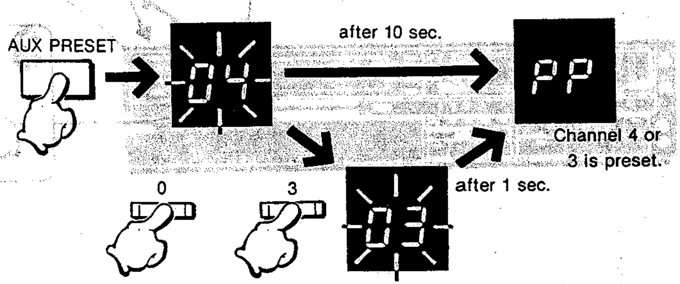
You can preset this video cassette recorder to switch from direct reception from the VHF IN ANT/CABLE terminal to reception looped through an optional captions decoder by using the AUX button on the front control panel or on your Remote Commander.

CONNECTING A CAPTIONS DECODER FOR RECORDING CAPTIONED PROGRAMS


VHF IN
AUX
TO CONV
ANT/CABLE
F-type connector
VHF antenna or CATV 75-ohm coaxial cable
Captions decoder
OUT
IN
75-ohm coaxial cable

TO PRESET THE OUTPUT CHANNEL OF THE CAPTIONS DECODER

To receive captioned programs from the decoder connected to the VHF IN AUX terminal, select the output channel number of the decoder, channel 3 or channel 4.
Press the AUX PRESET button in the channel compartment.
Channel number "04" will blink in the display. If the output channel of the decoder is channel 3, press the channel number buttons 0 and 3 so that "03" blinks in the display.

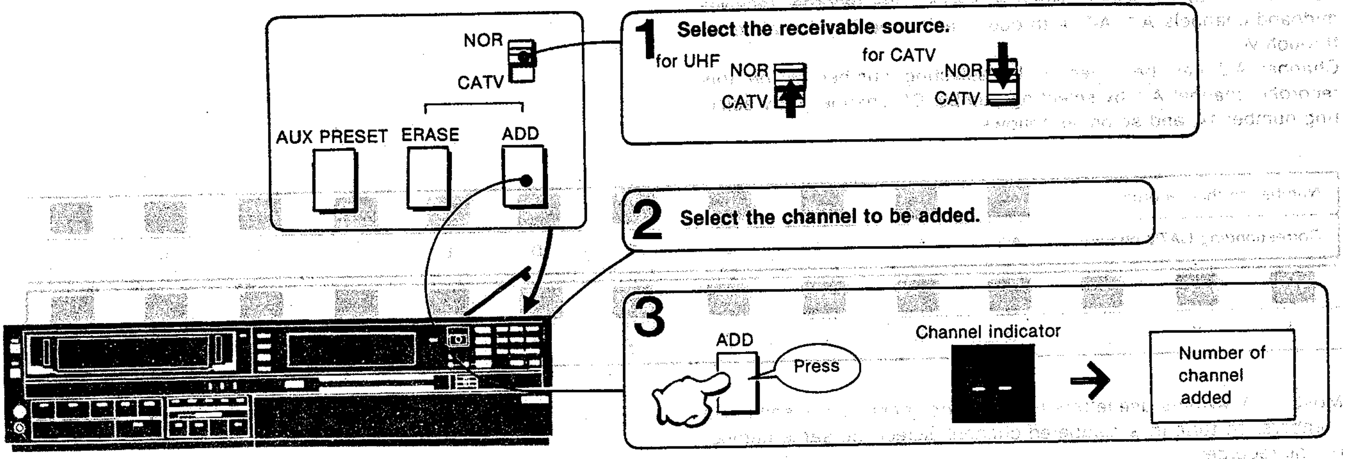

AUX PRESET
04
after 10 sec.
PP
Channel 4 or 3 is preset.
0
3
03
after 1 sec.

Once you preset, you can receive a captioned program from the AUX terminal by simply pressing the AUX button, whether the NOR/CATV select switch is set to NOR or CATV.
The channel display will show "PP" (presetted program).

+
CHANNEL
-
AUX
PP

1-6. CHANNEL PRESETTING

TO ADD UHF OR CATV CHANNELS


NOR
CATV
AUX PRESET
ERASE
ADD
for UHF
NOR
CATV
for CATV
NOR
CATV
ADD
Press
Channel indicator
Number of channel added

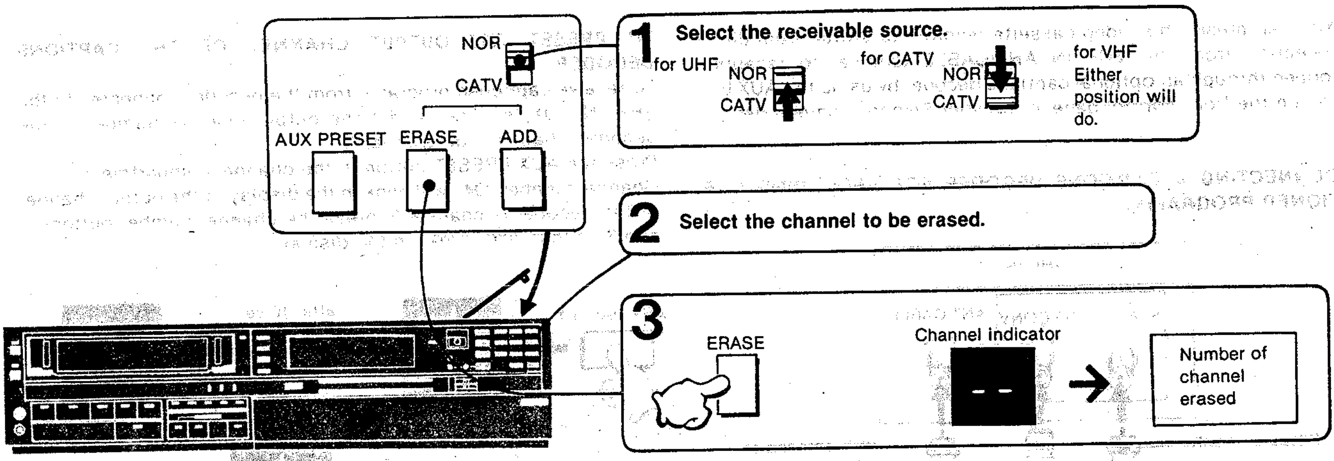
1 Select the receivable source.

2 Select the channel to be added.

3

Repeat the above for all the channels to be added. The channels will be entered in numerical sequence regardless of the adding sequence.

TO ERASE INACTIVE CHANNELS


NOR
CATV
AUX PRESET
ERASE
ADD
for UHF
NOR
CATV
for CATV
NOR
CATV
for VHF Either position will do.
ERASE
Channel indicator
Number of channel erased

1 Select the receivable source.

2 Select the channel to be erased.

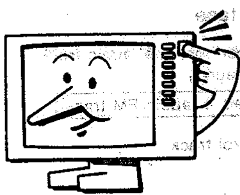
3

Repeat the above for all the channels to be erased.

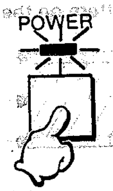
Operating note: It is not possible to erase a UHF channel from the memory and retain the CATV channel of the same number in the memory, or vice versa.
If either the UHF channel or the CATV channel of the same number is to be kept in the memory, do not erase the number.

1-7. HOW TO RECORD TV PROGRAMS

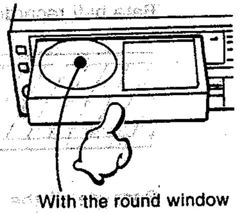
1 Turn on the TV and select the channel for the video recorder.



2

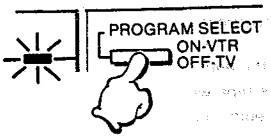


3 Insert a cassette.

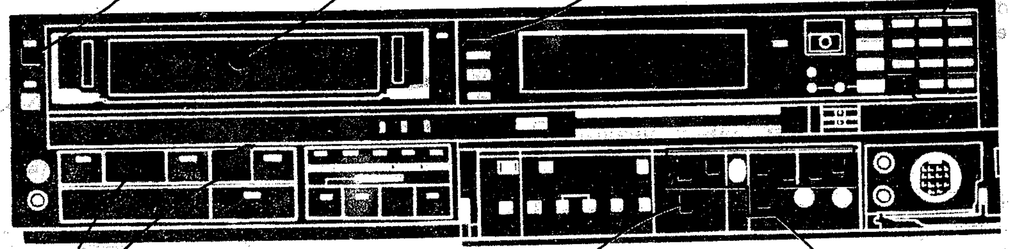


With the round window to the left

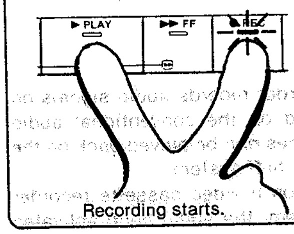
4


PROGRAM SELECT
ON-VTR
OFF-TV

5 Select the channel to be recorded with the channel number buttons or the +/– buttons.



6 While holding the ● REC button down, press ▶ PLAY.

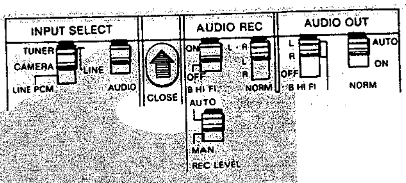


Recording starts.

Select the REC MODE switch according to the length of the program to be recorded.

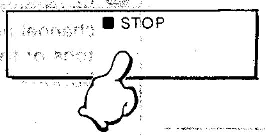
Cassette used	βII mode	βIII mode
L-125	30 min.	45 min.
L-250	1 hr.	1 hr. 30 min.
L-500	2 hr.	3 hr.
L-750	3 hr.	4 hr. 30 min.
L-830	3 hr. 20 min.	5 hr.

BE SURE TO SET THESE SWITCHES TO THE GREEN POSITION*


INPUT SELECT
TUNER
CAMERA
LINE PCM
LINE
AUDIO
CLOSE
AUDIO REC
ON
L·R
L
R
OFF
B HI FI
NORM
AUTO
MAN.
REC LEVEL
AUDIO OUT
L
R
OFF
B HI FI
AUTO
ON
NORM

* Green position is the standard setting position.

To stop recording



To eject the cassette, press the ⏏ button.
If the tape reaches the end during recording, the tape will be rewound to the beginning automatically.

To stop the tape momentarily
Press the ❚❚ button. The lamp above the button will light.
The TV program can be seen on the TV, but the picture will not be recorded.
To resume recording, press the button again.
To protect the video heads and the tape, the pause mode will be automatically released after about 8 minutes and recording will resume.

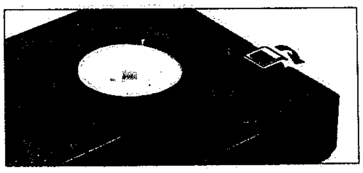
RECORDING ONE TV PROGRAM WHILE VIEWING ANOTHER

You can record a TV program selected on the recorder while viewing another TV program.

1 Start recording the desired TV program following the procedure above.
2 Press the PROGRAM SELECT button so that the VTR lamp goes off.
3 Select the channel you want to view on the TV.

TO KEEP A RECORDED PROGRAM FROM BEING ACCIDENTALLY ERASED
When a new recording is made on a previously recorded cassette, the previous recording will be automatically erased.

To avoid erasing a recording
Break off the safety tab using a screwdriver or similar object.



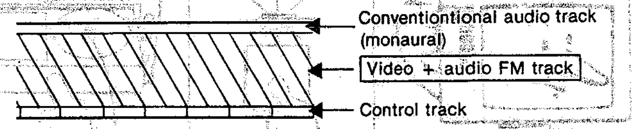
To re-record on a cassette which has had its safety tab removed
Cover the hole with a piece of plastic tape.

In case you want to record a tape which is to be played back on another recorder from the very beginning of the tape, run the tape for about 15 seconds before starting recording. Otherwise you may miss the starting point during playback on the other machine.

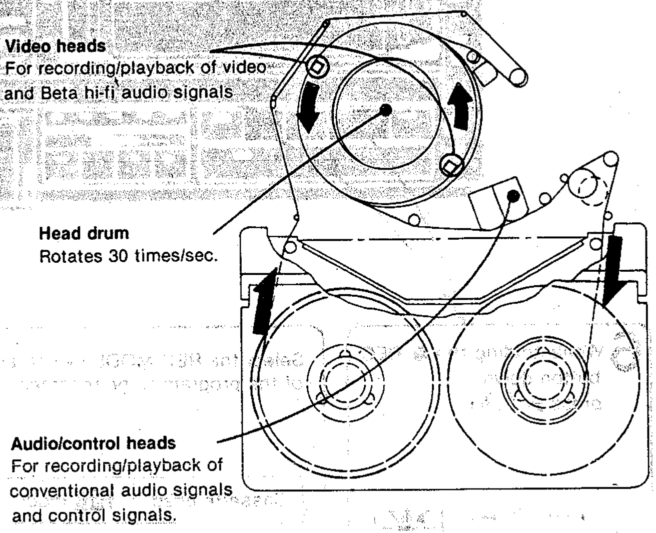
1-8. BETA HI-FI RECORDING

In conventional recording, audio signals are recorded on the audio track and the video signals on the video track. With Beta hi-fi recording, audio signals are frequency-modulated and recorded on the video track with the video signals.

Beta hi-fi recording pattern on the video tape



Because of the frequency-modulated audio signals, audio recording/playback with flat frequency response, wide dynamic range, minimal noise and distortion is achieved. Furthermore, the relative tape speed is far faster than the tape speed in conventional recording, since the Beta hi-fi audio signals are recorded using the 2 rotary video heads.
Wow and flutter are lower than the measurable limit.

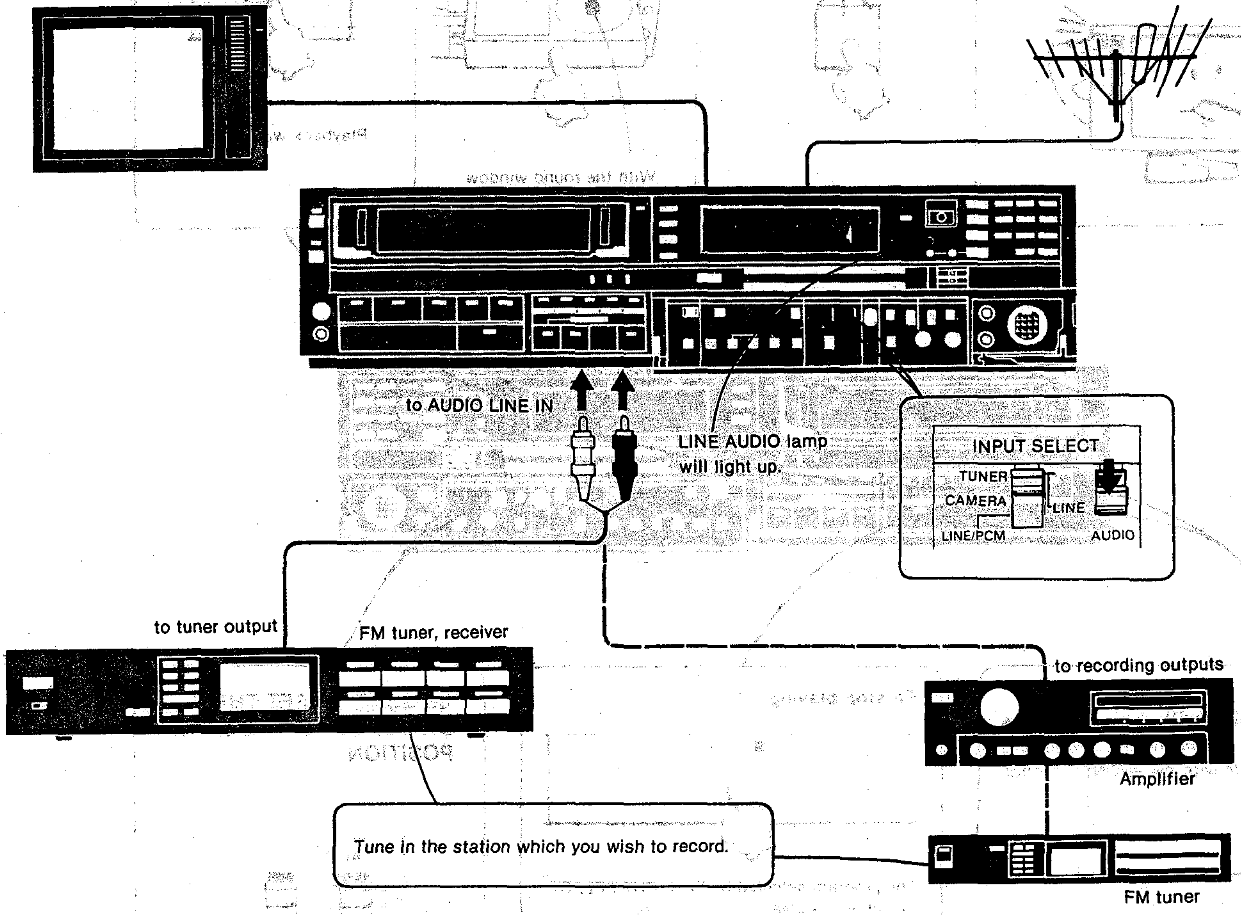

Video heads
For recording/playback of video and Beta hi-fi audio signals
Head drum
Rotates 30 times/sec.
Audio/control heads
For recording/playback of conventional audio signals and control signals.

With the B HI-FI switch ON, the recorder records audio signals on video track (Beta hi-fi recording) and on the conventional audio track at the same time, so that the tapes can be played back on the video cassette recorders without Beta hi-fi system.
When playing back a tape recorded on a video cassette recorder not equipped with the Beta hi-fi system, the audio head activates and the audio is played back conventionally.

With Beta hi-fi recording, 2 channel audio signals can be recorded. Recording from the AUDIO LINE IN jacks or MIC jacks results in dynamic stereo sound.
Recording on the conventional audio track is monaural.

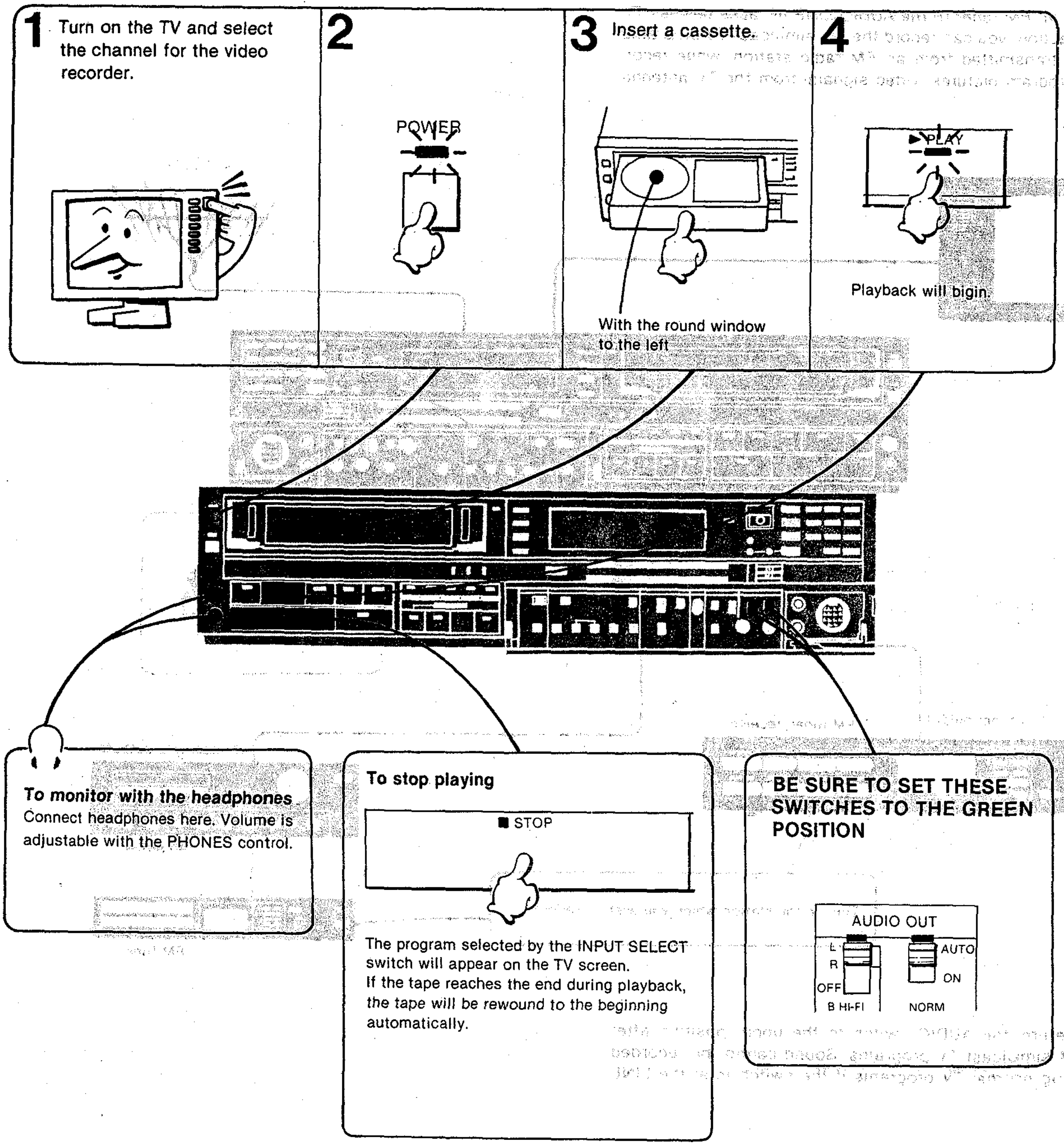
1-9. FM SIMULCAST RECORDING

By connecting an FM tuner to the AUDIO LINE IN jacks besides TV antenna connection, you can record the FM simulcast TV programs (stereo sound transmitted from an FM radio station) while recording the TV program pictures (video signals) from the TV antenna inputs.


to AUDIO LINE IN
LINE AUDIO lamp will light up.
INPUT SELECT
TUNER
CAMERA
LINE/PCM
LINE
AUDIO
to tuner output
FM tuner, receiver
to recording outputs
Amplifier
Tune in the station which you wish to record.
FM tuner

Note
Be sure to return the AUDIO switch to the upper position after recording FM simulcast TV programs. Sound cannot be recorded when recording normal TV programs if the switch is at the LINE position.

1-10. HOW TO PLAYBACK A TAPE



1 Turn on the TV and select the channel for the video recorder.

2

3 Insert a cassette.

With the round window to the left

4

Playback will bigin.

To monitor with the headphones
Connect headphones here. Volume is adjustable with the PHONES control.

To stop playing

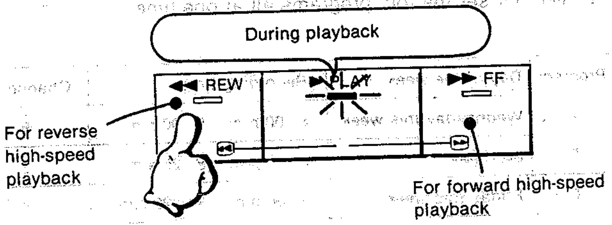
The program selected by the INPUT SELECT switch will appear on the TV screen.
If the tape reaches the end during playback, the tape will be rewound to the beginning automatically.

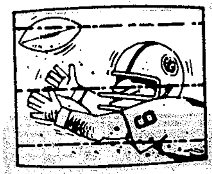
BE SURE TO SET THESE SWITCHES TO THE GREEN POSITION

1-11. PLAYBACK OF TAPE RECORDING IN STEREO AND BILINGUAL WITH THE BETA HI-FI SYSTEM

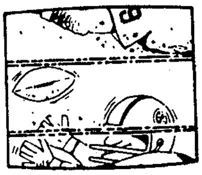
BETASCAN ... To search for a particular point while viewing the picture

Press the ►► FF or ◄◄ REW button during playback.
While the button is depressed, a high-speed playback picture in the forward or reverse direction can be seen.


During playback
◄◄ REW
► PLAY
►► FF
For reverse high-speed playback
For forward high-speed playback

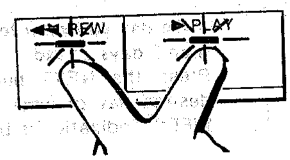

Streaks will appear in the Betascan mode.

- If you press and release the ►► FF or ◄◄ REW button repeatedly for a short time, the protection circuit may be activated and the tape will stop.


If the picture rolls vertically, adjust the vertical hold control on the TV.

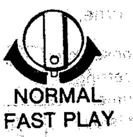
AUTO PLAY ... To play from the beginning of the tape after rewinding

Press the ► PLAY button while holding the ◄◄ REW button depressed. After the tape is completely rewound, it will automatically be played back.



WHEN YOU PLAY BACK A TAPE RECORDED ON ANOTHER VCR

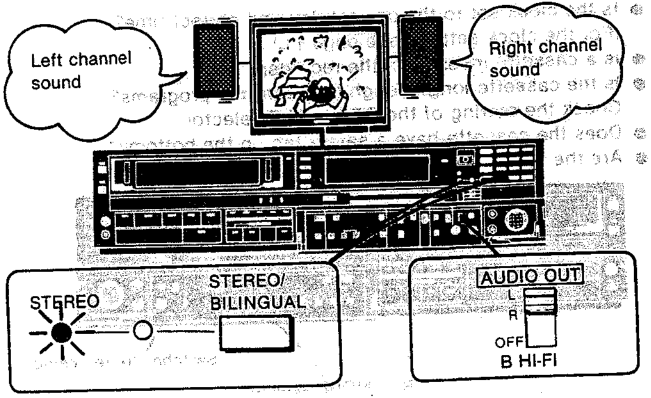
- If the VCR on which the tape was recorded is not equipped with the Beta hi-fi system, the recorder will play back the tape in the conventional way.
- If streaks or snow appear, open the front compartment and adjust the left TRACKING control (NORMAL/FAST PLAY) for the best possible picture.


NORMAL
FAST PLAY

Return the control to the center position after viewing that tape.

Playback of Beta hi-fi stereo sound programs

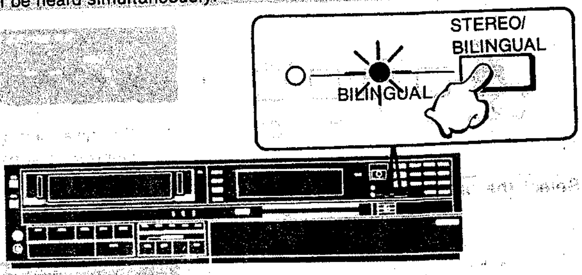
When the recorder is connected to a component TV, a stereo system or stereo headphones, you can enjoy stereo sound reproduction.


Left channel sound
Right channel sound
STEREO
STEREO/ BILINGUAL
AUDIO OUT
L
R
OFF
B HI-FI

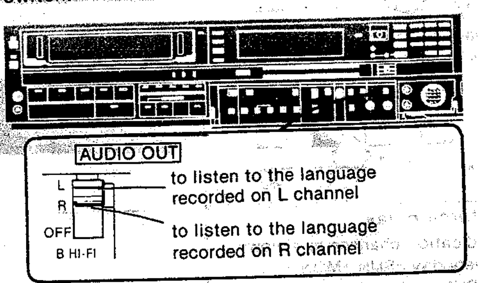
When a conventional TV is connected, the sound of the left and right channels are mixed so that monaural sound comes from the TV speaker.

Playback of Beta hi-fi bilingual programs

Press the STEREO/BILINGUAL button so that the BILINGUAL lamp lights.
If you play back a bilingual tape with the STEREO lamp ON, both languages will be heard simultaneously.


STEREO/ BILINGUAL
BILINGUAL

Select the language you wish to listen to with the AUDIO OUT/B HI-FI switch.


AUDIO OUT
L
R
OFF
B HI-FI
to listen to the language recorded on L channel
to listen to the language recorded on R channel

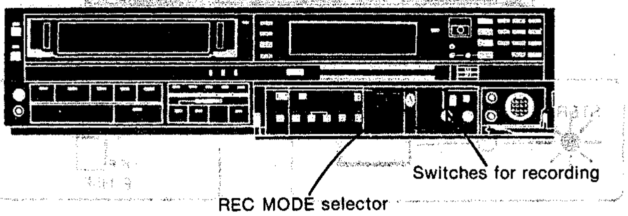
When you eject the cassette or turn the power off, the STEREO/BILINGUAL button returns to STEREO.

1-12. TIMER-ACTIVATED RECORDING

Using the built-in timer, recordings of up to any four programs occurring within the next fourteen days can be made automatically, even when you are not at home.

Check before setting the timer

- Is the clock set to the correct day and correct time? (For the clock setting, see page 11.)
- Is a cassette inserted in the recorder?
- Is the cassette long enough to record the programs? Check the setting of the REC MODE selector.
- Does the cassette have a safety tab on the bottom?
- Are the switches for recording at the green position?



Examples of timer settings

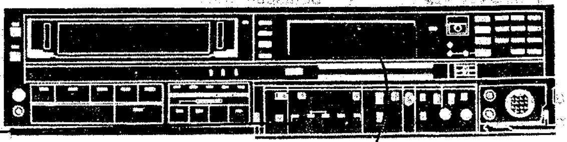
The turn-on day may be a particular day of the week or every day. You need not set the four programs all at one time.

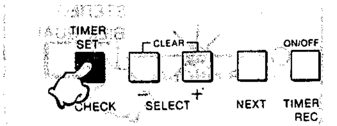
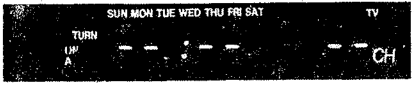
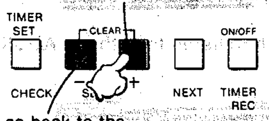
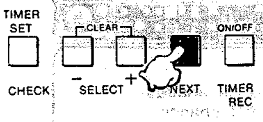
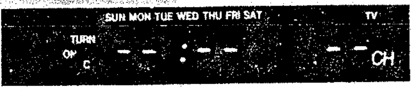
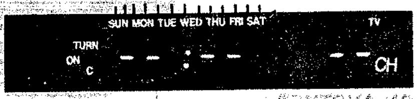
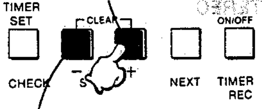
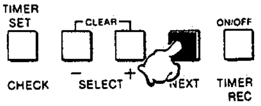
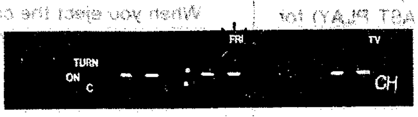
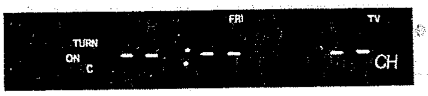
Program	Day of the week	Recording time	Channel
A	Wednesday this week	8 : 00 p.m. - 9 : 00 p.m.	6
B	everyday	8 : 15 a.m. - 8 : 25 a.m.	2
C	Friday this week	9 : 00 p.m. - 11 : 25 p.m.	8
D	Tuesday next week	11 : 15 p.m. - 11 : 30 p.m.	10

Note: The timer cannot be set during recording.

SETTING THE TIMER

Example: Suppose you want to set the timer to Program C above.



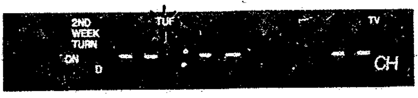
Button to be pressed	Time display The segment to be set will blink.
1  TIMER SET CLEAR ON/OFF CHECK SELECT NEXT TIMER REC	 (The timer setting of Program A will be displayed if it has been set.)
2 Select the program. Indication changes in alphabetical order.  To go back to the previous indication. 	 
3 Select the turn-on day. Indication changes as follows: every day→SUN→MON→ ... →SUN with 2ND WEEK→ ... SAT with 2ND WEEK→every day  To go back to the previous indication. 	 

To record a program at the same time everyday

Press the NEXT button when all days of week indications are blinking.

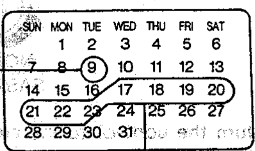
If the day you want to record is more than 7 days ahead

Press the NEXT button when the desired day of week with the "2ND WEEK" indication is blinking.



The 2ND WEEK in this case is different from next week on the calendar. The 2ND WEEK is the week which begins exactly seven days from the present day, at the present time.

Suppose you are setting the timer on this day at 10 : 00 a.m.



SUN	MON	TUE	WED	THU	FRI	SAT
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

2ND WEEK: from 10 : 01 a.m. on 16th to 10 : 00 a.m. on 23rd.

Notes on the ERROR indicator
The ERROR indicator does not light in the following cases, even if settings overlap.

—when the turn-off time of the program whose turn-on time is set earlier than the other one is set to "--:--".
Example :
Program A : Sun. 7 : 00 p.m. → "--:--" (to tape end)
Program B : Sun. 8 : 00 p.m. → 9 : 00 p.m.

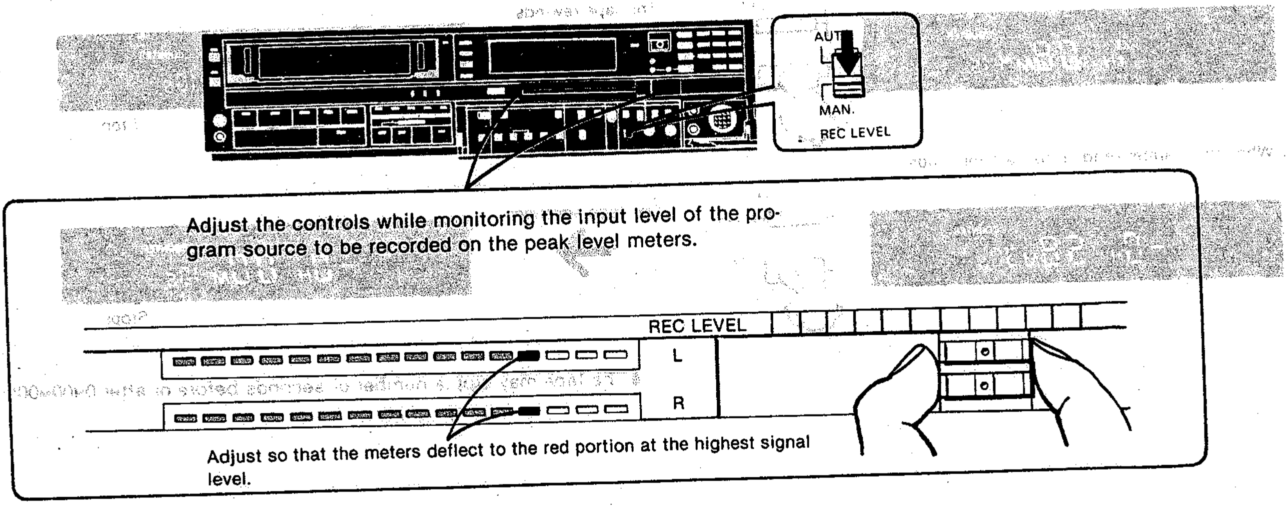
—when one of the overlapping programs is set for next week and brackets the present time.
Examples :
Present time : Sun. 3 : 00 p.m.
Program A : Sun. 2 : 00 p.m. → 4 : 00 p.m.
(The program actually starts next Sunday.)
Program B : Sun. of the 2nd week 3 : 30 p.m.→ 5 : 00 p.m.

The ERROR indicator will light up and blink even if one timer program including the present time and another timer program do not actually overlap.
Examples :
Present time : Sun. 3 : 00 p.m.
Program A : Sun. 2 : 00 p.m. → 4 : 00 p.m.
(The program will actually starts next Sunday.)
Program B : Sun. 3 : 30 p.m.→ 5 : 00 p.m.
(The program will start that day.)

We recommend that you check the preset timer programs whenever you set a new timer program.

1-13. RECORDING LEVEL ADJUSTMENT

When recording with Beta hi-fi, if the REC LEVEL switch is set to MAN, the recording level of each channel can be adjusted separately with the REC LEVEL controls. When you record a sound source which contains low level to high level signals, for example, sounds from microphones or audio equipment, manually adjusting the recording level may result in a better recording.
If the recording level setting is too high, the sound will be distorted, and if the setting is too low, a noisy recording will result. The recording level should be set as high as possible while avoiding distortion.



Adjust the controls while monitoring the input level of the program source to be recorded on the peak level meters.

Adjust so that the meters deflect to the red portion at the highest signal level.

Start recording after adjusting the record level.

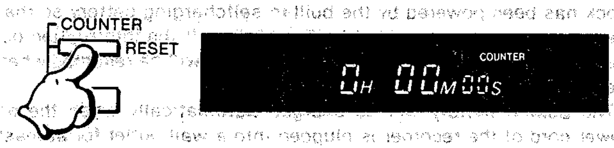
WHEN A POWER INTERRUPTION OCCURS

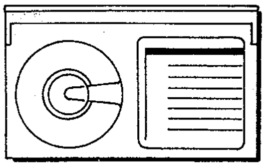
If the clock shows "SUN AM 12 : 00" and does not advance
All the timer settings have been erased. Reset the clock time and the timer settings.

If the clock still shows the correct time
The power has been interrupted for less than 60 minutes and the clock has been powered by the built-in selfcharging battery so that the timer programs were kept in the memory. If the interruption occurs after the recording has begun, recording will be resumed when the power is restored.
●The built-in battery will be charged automatically when the ac power cord of the recorder is plugged into a wall outlet for at least 40 hours.

1-14. USING THE TIME COUNTER

TO INDEX THE WHOLE TAPE
Before recording or playback, set the counter to "0H00M00s" by pressing the COUNTER RESET button.
As the tape runs, the figures of the counter change. Note the numbers and the program being recorded or played back. Any point of the tape can thus be readily located later by referring to these numbers.


COUNTER
RESET
COUNTER
0H 00M00s

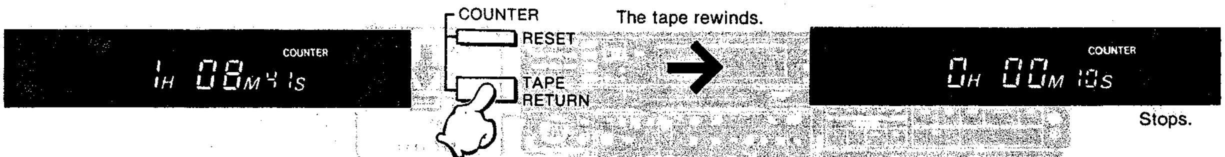


Write the counter readings you want to remember on the label of the cassette.

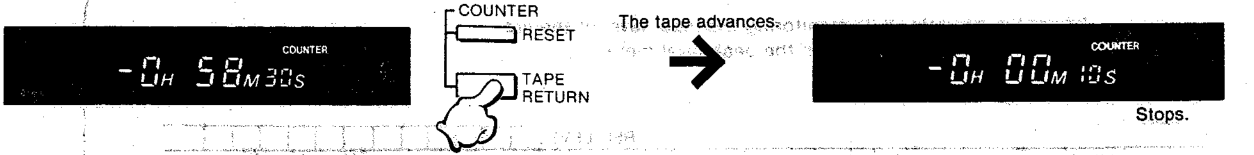
The counter reading is automatically reset to zero,
- when the power is turned off.
- when a cassette is ejected and inserted again.

The time counter does not operate with brand-new tapes.
The time counter counts the CTL signals during playback or fast winding. These signals are recorded on the tape at the same time the video signals are recorded.
Because brand-new tapes have no CTL signals recorded on them, the time counter cannot operate with these tapes.
Because of the difference between the reference frequency of the time counter and the clock, the time counter indication is 3 to 4 seconds an hour behind the actual tape running time.
When fast winding the tape, the counter may count a number of seconds fewer.

TO RETURN TO A PRE-REGISTERED POINT—TAPE RETURN
During recording or playback, press the COUNTER RESET button at the point you later want to locate.
When the recording or playback is finished, stop the tape by pressing the ■ STOP button, then press the TAPE RETURN button.
The tape will rewind or advance to the point where the COUNTER RESET button was pressed.


COUNTER
1H 08M41s
COUNTER
RESET
TAPE
RETURN
The tape rewinds.
COUNTER
0H 00M10s
Stops.

When the counter reading has a minus sign

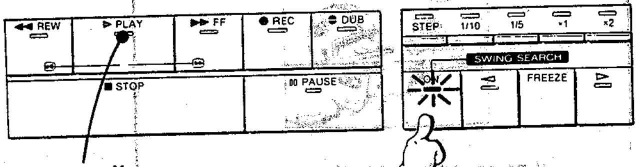

COUNTER
-0H 58M30s
COUNTER
RESET
TAPE
RETURN
The tape advances.
COUNTER
-0H 00M10s
Stops.

- The tape may stop a number of seconds before or after 0H00M00s.

1-15. TO OBTAIN VARIABLE SPEED PLAYBACK PICTURES – "SWING SEARCH"

With this video cassette recorder, you can obtain a freeze, a slow motion, a double speed, a step-by-step or a reverse playback picture as well as a normal speed playback picture.

Press SWING SEARCH—ON during playback.



goes off.

The recorder is set into the Swing Search mode.

For example ...

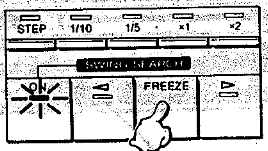
To closely inspect a particular frame ——→ FREEZE PICTURE
To study your golf or tennis form ——→ STEP-BY-STEP PICTURE
To watch a football play slowly unfold —→ SLOW-MOTION PICTURE
To quickly review a program ——→ DOUBLE-SPEED PICTURE

To resume normal playback, press the ▶ PLAY button.

- During forward ×2 and ×1 playback, the Beta hi-fi audio can be monitored. In the other Swing Search modes, the audio cannot be monitored.
- Tapes recorded in the **βI** mode cannot be played back in the Swing Search mode.
- Pressing the ▶▶ FF or ◀◀ REW button during the Swing Search mode permits Betascan operation.

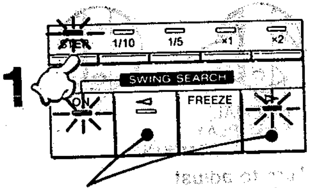
FREEZE PICTURE

When you first press the SWING SEARCH—ON button, a freeze picture can be obtained.
If ◃ or ▹ button lights,



press.

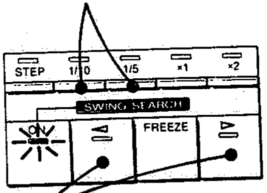
STEP-BY-STEP PLAYBACK



2 Press ▹ for forward playback and ◃ for reverse playback. When you release the button, the picture returns to the freeze picture. Repeatedly press and release the button.
Keep the ▹ or ◃ button depressed for continuous step-by-step playback.

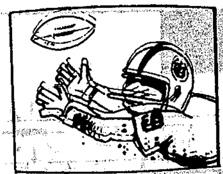
SLOW MOTION

1 Press 1/5 for 1/5 slow motion or to playback more slowly, press 1/10.



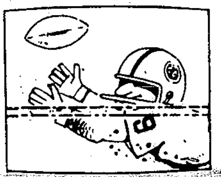
2 Press ▹ for forward playback and ◃ for reverse playback.

If a vertical jitter appears in the freeze, step-by-step or slow motion picture.

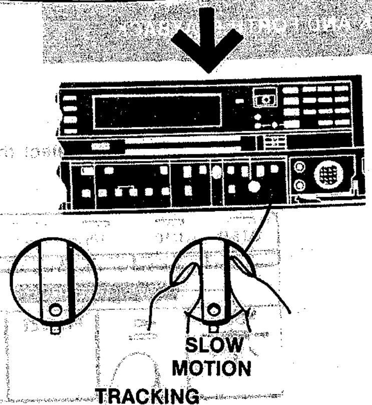


Obtain a freeze picture and adjust the TV VERT LOCK control at the rear of the recorder for the best possible picture. Then return the recorder to the previous mode.

- Once you adjust this control, you do not have to adjust it again unless you change the connected TV receiver.



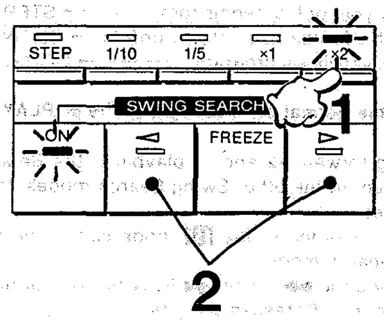
To remove the noise band in the freeze, step-by-step or slow motion picture.



Obtain a slow motion picture and adjust the control.
Return the recorder to the previous mode or continue in slow motion.

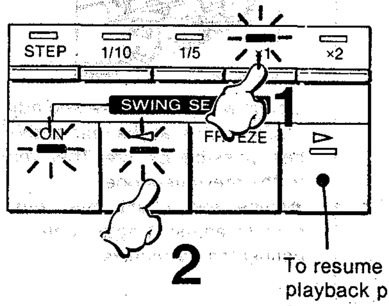
- Return the control to its original (dotted) position after the playback.

DOUBLE SPEED PICTURE


STEP
1/10
1/5
×1
×2
SWING SEARCH
ON
◁
FREEZE
▷
1
2

Press ▷ for forward playback and ◁ for reverse playback.
●Duble speed sound can be monitored during forward playback.

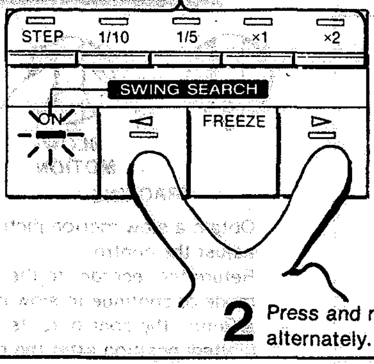
REVERSE PLAYBACK


STEP
1/10
1/5
×1
×2
SWING SE
ON
FREEZE
▷
1
2

To resume the forward playback press. Sound can be heard during forward playback.

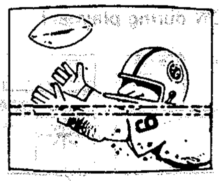
BACK AND FORTH PLAYBACK

1 Select the speed.

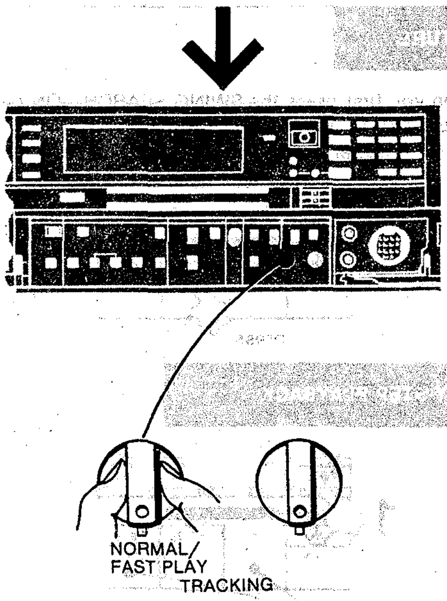

STEP
1/10
1/5
×1
×2
SWING SEARCH
ON
◁
FREEZE
▷

2 Press and release alternately.

To remove the noise band in the reverse normal speed or the forward double speed picture



If no sound heard in the forward double speed playback.


NORMAL/
FAST PLAY
TRACKING

Turn to adjust.

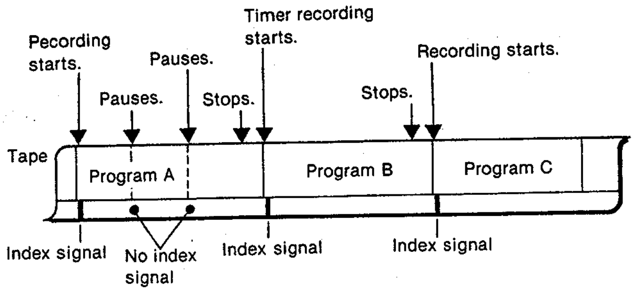
●The noise band in the reverse double speed picture cannot be removed.

Return the control to its original (dotted) position after the reverse normal speed or the forward double speed viewing.

1-16. INDEX FUNCTION

To play from the start of a desired program
The index function locates the program selection you desire and plays back the selection automatically.

The index function operates by ...
detecting the index signals which are automatically recorded on the tape when the ● REC button is pressed or when timer recording begins.



How to actuate the mechanism ... There are two ways.

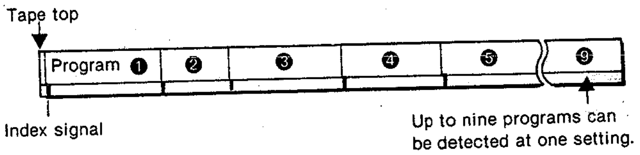
Methode 1

You number each program on the tape from the beginning in sequence and find your desired program by designating the number.

Methode 2

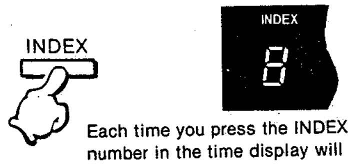
You number each program on the tape from the present position in sequence and find your program by designating the number.

Methode 1



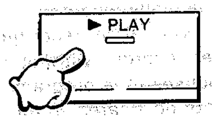
Up to nine programs can be detected at one setting.

Operation
1 Turn on the recorder and insert a recorded cassette.
2 Press the INDEX button so that the number of your desired program appears on the left of the time display.



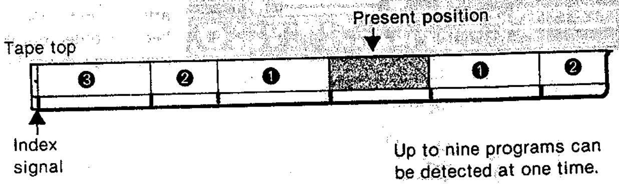
Each time you press the INDEX button, the number in the time display will increase by 1, 1 → 2 → ... 8 → 9 → 0.

3 Press the ▶ PLAY button.



The tape will be rewound to the beginning and will run in the fast forward mode to the start point of your desired program. Then playback of the program will start automatically.
During the fast forward operation, the figure number increases by one when an index signal is detected. When the figure becomes the one that you have selected, the playback starts.

Method 2



Up to nine programs can be detected at one time.

Operation
1 Stop the tape by pressing the ■ STOP button.
2 Press the INDEX button so that the number of your desired program appears on the left of the time counter.
Count how many index signals separate the beginning of the program you want to play from the program you are listening to and press the INDEX button that many times. For instance, to locate the second program ahead, two index signals will have to be detected, but to locate the second program back, three index signals will have to be detected.
3 When locating the program ahead, press the ▶▶ FF button.
When locating the program back, such as in case of above example, press the ◀◀ REW button.
The fast forward or rewind operation starts and the playback will begin from the top of your desired program.

●The index function operates with any tape recorded on a machine with an index function, such as the Sony SL-2500.

Note
The index mechanism functions only in the stop mode.

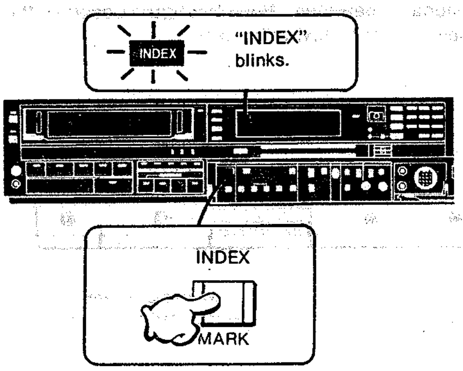
When the desired program cannot be played back with the index function, check the following:
●Is there a blank space of over one minute at the very beginning of the tape? If so, the first program will be counted as program number two.
●Is there a program of less than one minute? Such a program will not be counted as one program.
●Have you performed the index operation within one minute before or after an index signal? In this case, the first index signal to be detected cannot be counted.

To insert an index signal on a recorded tape

The index signal is automatically recorded on the tape when the ● REC button is pressed or when timer recording begins.

If two programs have been recorded without interruption, no index signal will be recorded between the programs so the beginning of the second program cannot be located. In this case, you can insert an index signal on the tape manually.

1 Play the tape back.
2 At the point where an index signal is to be recorded, press the INDEX/MARK button in the front compartment.

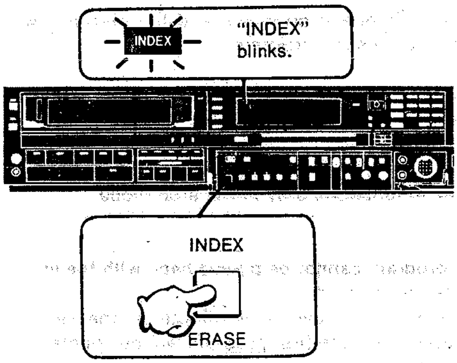


An index signal will be recorded when the button is pressed.
The playback sound will be muted for about 10 seconds after the index signal has been recorded but the recording will not be affected.

Note: Do not attempt to insert an index signal less than 10 seconds before the tape speed (βII or βIII) has been changed. In such a case the index signal may not be registered.

To erase an index signal

1 Stop the tape by pressing the ■ STOP button.
2 Count the number of index signals from the top of the tape to the signal you want to erase and set that number on the left side of the time display with the INDEX button.
3 Press the INDEX/ERASE button.



The tape will be rewound or advanced rapidly to the index signal to be erased and playback will begin.
The index signal will be erased and the tape will stop after about one minute. During erasing, the sound will be muted but the recording will not be affected.

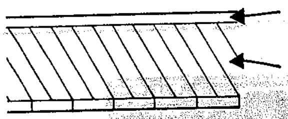
To prevent accidental erasure of the index signal

Locate the position of the index signal to be erased by the method 1 index function, make sure that the position is the right place and then proceed with the above operations.

Note: Index signals recorded on another video cassette recorder may not be erased.

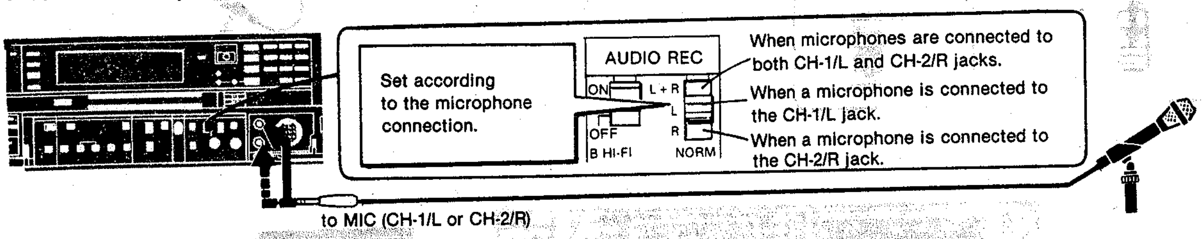
1-17. DUBBING AUDIO

You can record additional music or commentary on any recorded tape.
The new sound is recorded on the conventional audio track so the Beta hi-fi recording and the picture remain unchanged.

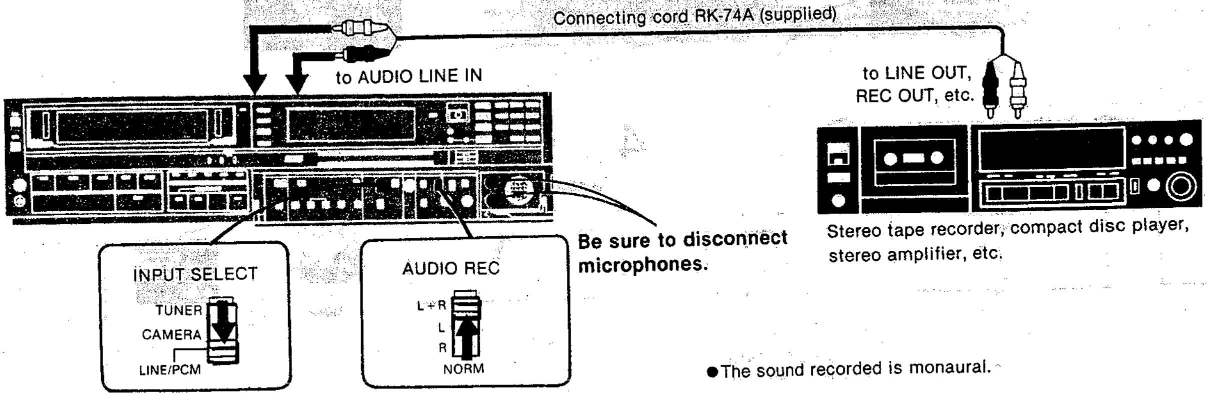

Conventional audio track : previously recorded sound will be erased and new sound will be recorded.
Video/audio FM track : Previously recorded picture and Beta hi-fi recording will remain.

CONNECTIONS

1 To record microphone sound

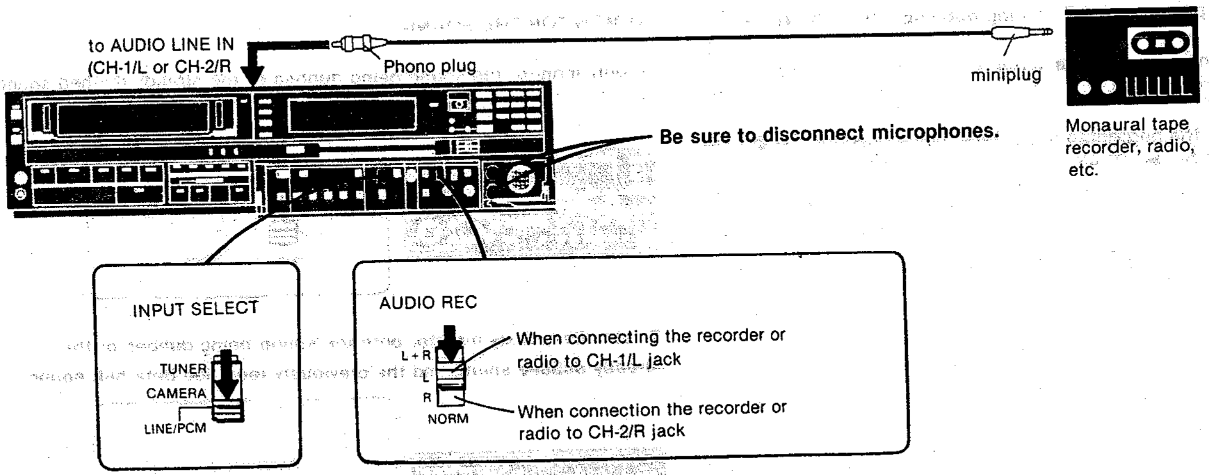

Set according to the microphone connection.
AUDIO REC
ON
OFF
B HI-FI
L+R
L
R
NORM
When microphones are connected to both CH-1/L and CH-2/R jacks.
When a microphone is connected to the CH-1/L jack.
When a microphone is connected to the CH-2/R jack.
to MIC (CH-1/L or CH-2/R)

2 To record from an audio equipment


Connecting cord RK-74A (supplied)
to AUDIO LINE IN
to LINE OUT, REC OUT, etc.
INPUT SELECT
TUNER
CAMERA
LINE/PCM
AUDIO REC
L+R
L
R
NORM
Be sure to disconnect microphones.
Stereo tape recorder, compact disc player, stereo amplifier, etc.

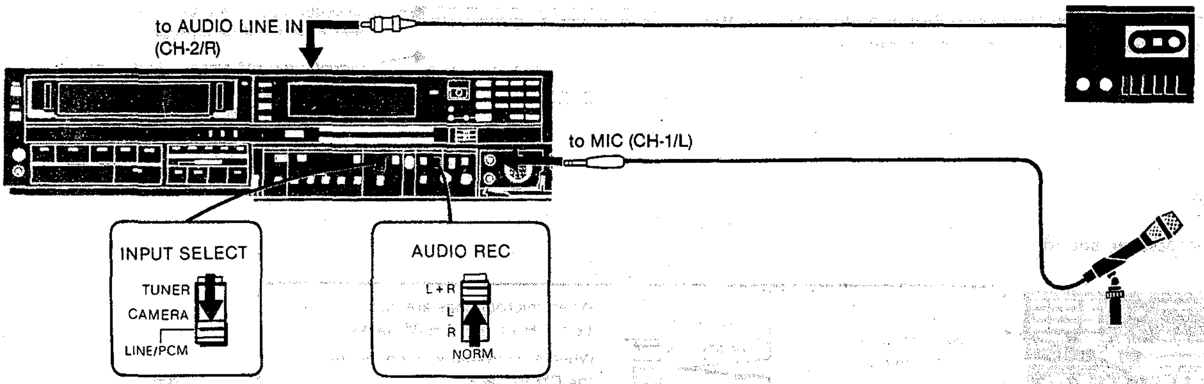
- The sound recorded is monaural.

3 To record from a monaural tape recorder or radio

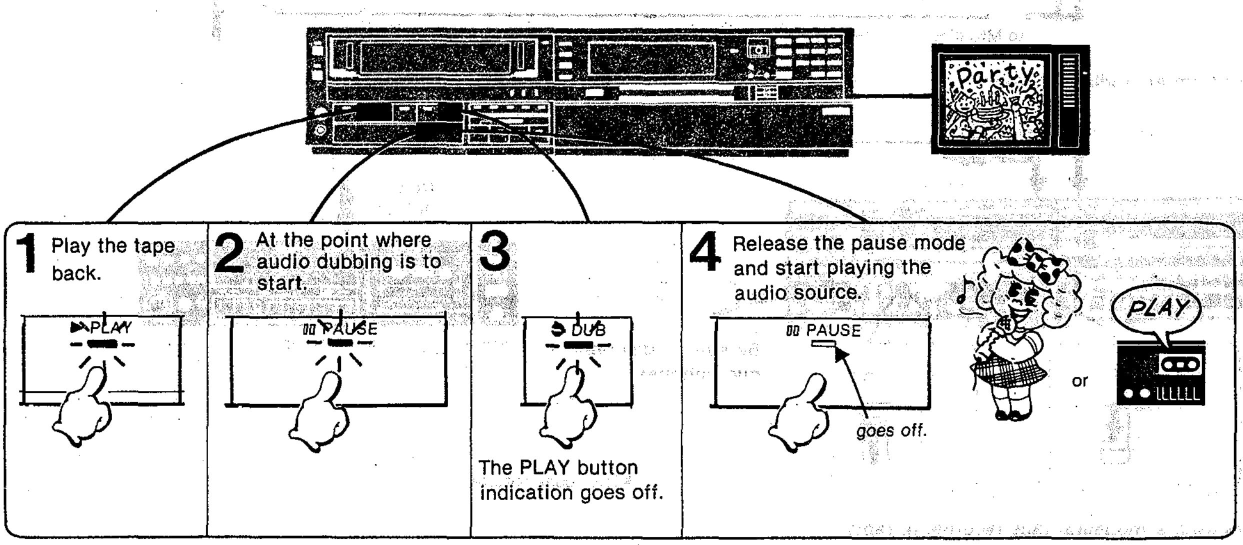

to AUDIO LINE IN (CH-1/L or CH-2/R
Phono plug
miniplug
Be sure to disconnect microphones.
Monaural tape recorder, radio, etc.
INPUT SELECT
TUNER
CAMERA
LINE/PCM
AUDIO REC
L+R
L
R
NORM
When connecting the recorder or radio to CH-1/L jack
When connection the recorder or radio to CH-2/R jack

4 To record mixed sound of music and commentary

Example :


to AUDIO LINE IN
(CH-2/R)
to MIC (CH-1/L)
INPUT SELECT
TUNER
CAMERA
LINE/PCM
AUDIO REC
L+R
L
R
NORM

HOW TO DUB


▶PLAY
II PAUSE
● DUB
II PAUSE
PLAY
or

1 Play the tape back.

2 At the point where audio dubbing is to start.

3 The PLAY button indication goes off.

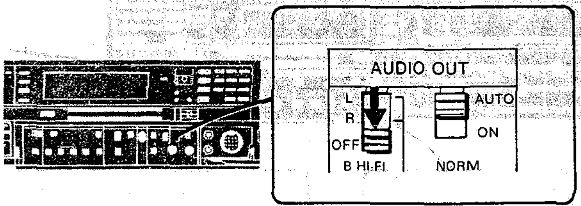
4 Release the pause mode and start playing the audio source.

goes off.

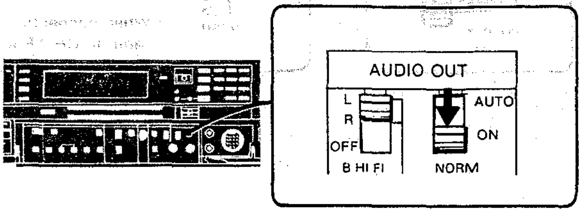
To stop the tape momentarily during dubbing, press the II PAUSE button.
To stop dubbing, press the ■ STOP button. Reset the switches in the front compartment to the green position and unplug the microphone.
To record from the beginning of the tape, while pressing the ● DUB button, press the ▶ PLAY button. Audio dubbing will start immediately.

TO MONITOR THE SOUND

To only monitor the sound being dubbed or the already dubbed sound


AUDIO OUT
L
R
OFF
B HI-FI
AUTO
ON
NORM

To simultaneously monitor both the sound being dubbed or the already dubbed sound and the previously recorded Beta hi-fi sound


AUDIO OUT
L
R
OFF
B HI FI
AUTO
ON
NORM

1-18. TO START RECORDING FROM A PARTICULAR POINT

You can decide the starting point for recording while watching the playback picture or by searching for the point using the Betascan and Swing Search functions.

1 Search for the point where you wish to start recording on the tape by playing back the tape or using the Betascan or the Swing Search function.
2 Press the ❚❚ PAUSE button to stop the tape where you wish to start recording.
3 Press the ● REC button. The recorder will enter the record pause mode and the picture selected by the INPUT SELECT switch will appear on the monitor screen.
4 Press the ❚❚ PAUSE button to release the pause mode. Recording starts.

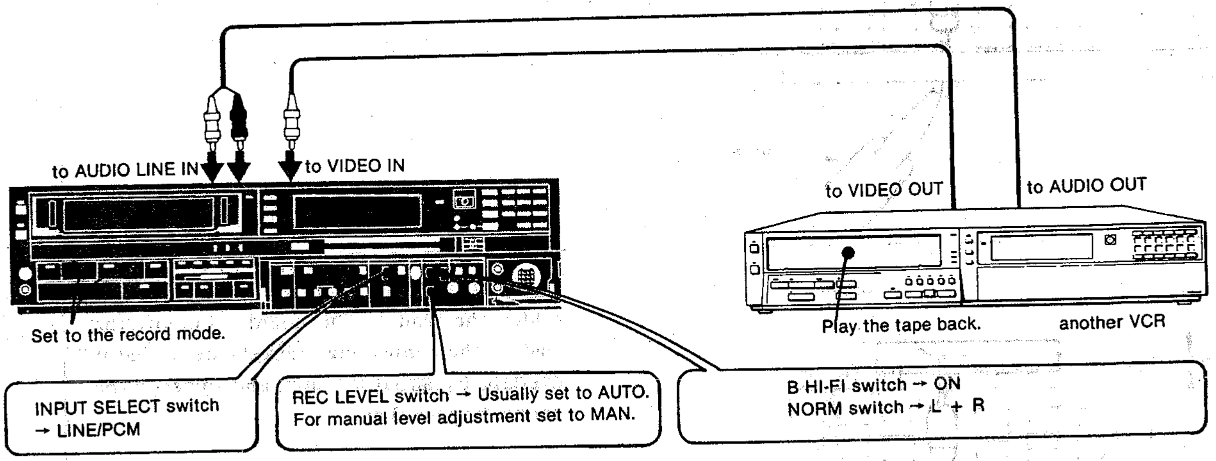
- At the starting point of recording, the picture may be distorted or streaks may appear but these are not problem.

1-19. TAPE COPY

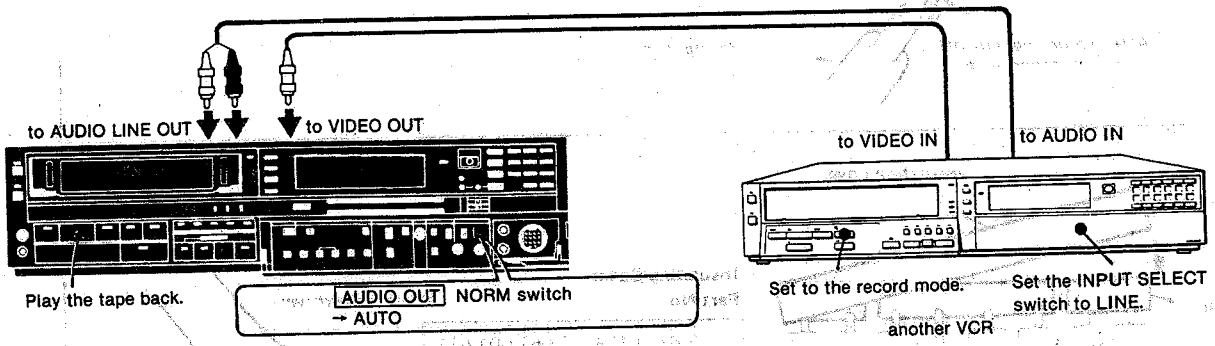
Caution:
Television programs, films, video tapes and other materials may be copyrighted. Unauthorized duplication of such material may be contrary to the provisions of the copyright laws.

To duplicate a tape you will need two video cassette recorders.

To duplicate a tape from another VCR to the SL-2700

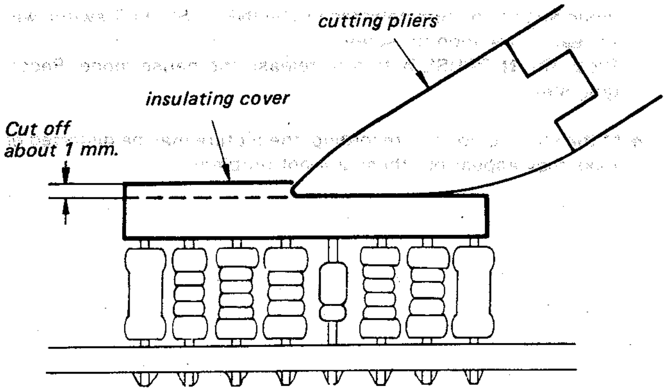

to AUDIO LINE IN
to VIDEO IN
to VIDEO OUT
to AUDIO OUT
Set to the record mode.
Play the tape back.
another VCR
INPUT SELECT switch → LINE/PCM
REC LEVEL switch → Usually set to AUTO. For manual level adjustment set to MAN.
B HI-FI switch → ON
NORM switch → L + R

To duplicate a tape from the SL-2700 to another VCR

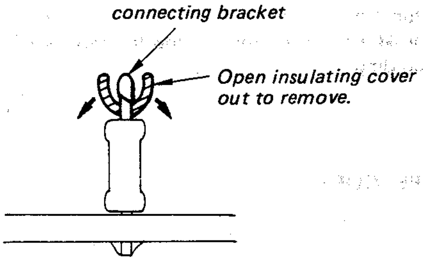

to AUDIO LINE OUT
to VIDEO OUT
to VIDEO IN
to AUDIO IN
Play the tape back.
AUDIO OUT NORM switch → AUTO
Set to the record mode.
Set the INPUT SELECT switch to LINE.
another VCR

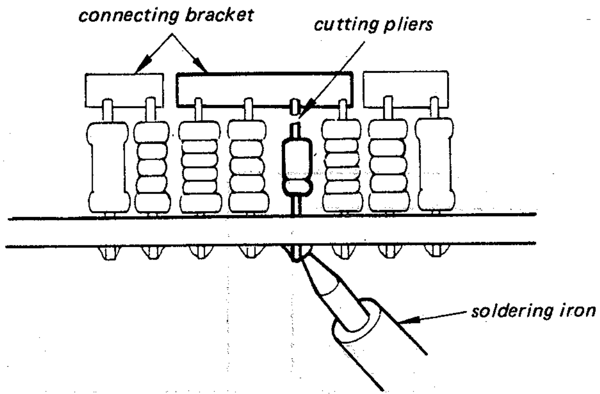
- If you duplicate a bilingual program tape, press the STEREO/BILINGUAL button so that the BILINGUAL lamp lights and then select the language to copy with the AUDIO OUT/B HI-FI switch.

1-20. REPAIR METHOD FOR HYBRID CIRCUIT BLOCK

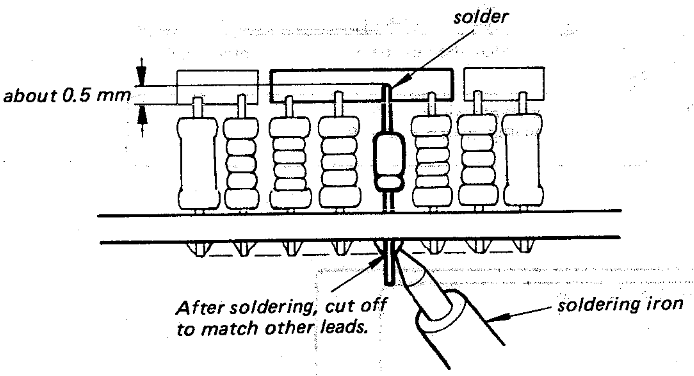

cutting pliers
insulating cover
Cut off about 1 mm.

Using a cutting pliers, cut off the upper portion of the insulating cover about 1 mm, exposing the top of the connecting brackets.


connecting bracket
Open insulating cover out to remove.

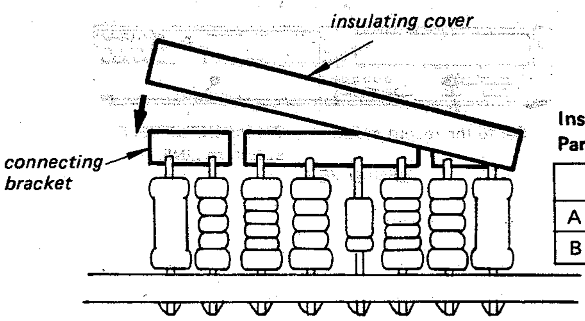

connecting bracket
cutting pliers
soldering iron

Cut off the lead of the defective part with cutting pliers. Remove solder and take out the defective part.


solder
about 0.5 mm
After soldering, cut off to match other leads.
soldering iron

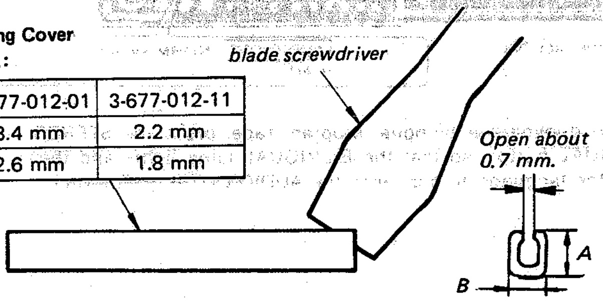
Insert the new part on the board and solder the lead to the board. Cut off the lead on the connecting bracket side so that it overlaps by about 0.5 mm, and solder to the connecting bracket.

Open the insulating cover groove about 0.7 mm and place over the connecting brackets, positioning one end first.


insulating cover
connecting bracket

Insulating Cover Part No.:

	3-677-012-01	3-677-012-11
A	3.4 mm	2.2 mm
B	2.6 mm	1.8 mm


blade screwdriver
Open about 0.7 mm.
A
B

SECTION 2
DISASSEMBLY AND REPLACEMENT

2-1. CABINET ASSEMBLY

① Remove the four screws.

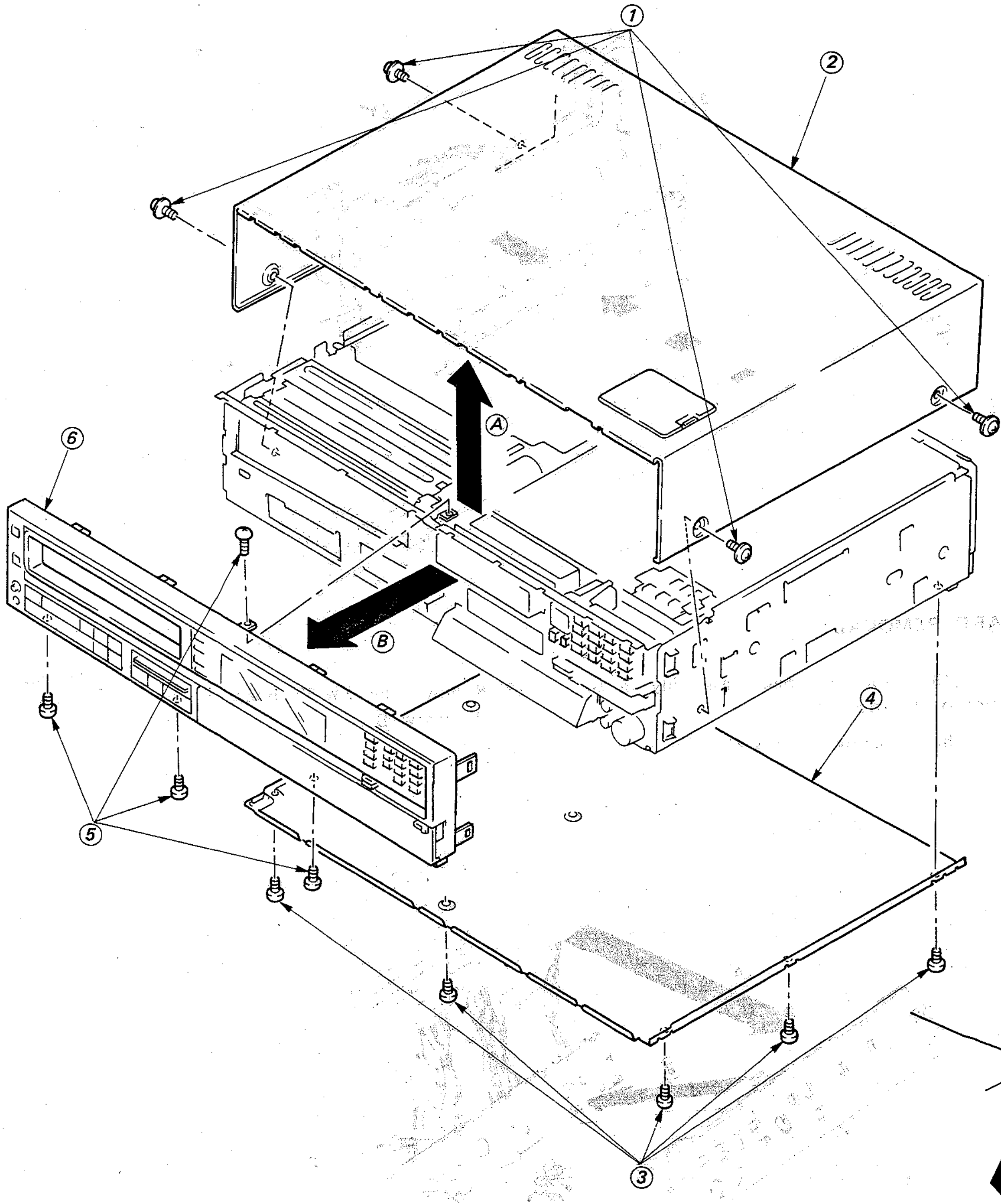
② Remove the upper case in the direction of the arrow Ⓐ.

③ Remove the ten screws. (BVTT3 x 6)

④ Remove the bottom plate.

⑤ Remove the four screws. (BVTT3 x 6)

⑥ Remove the front panel assembly in the direction of the arrow Ⓑ.
(Refer to the figure A)



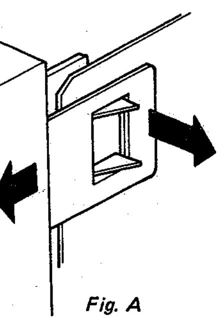


Fig. A

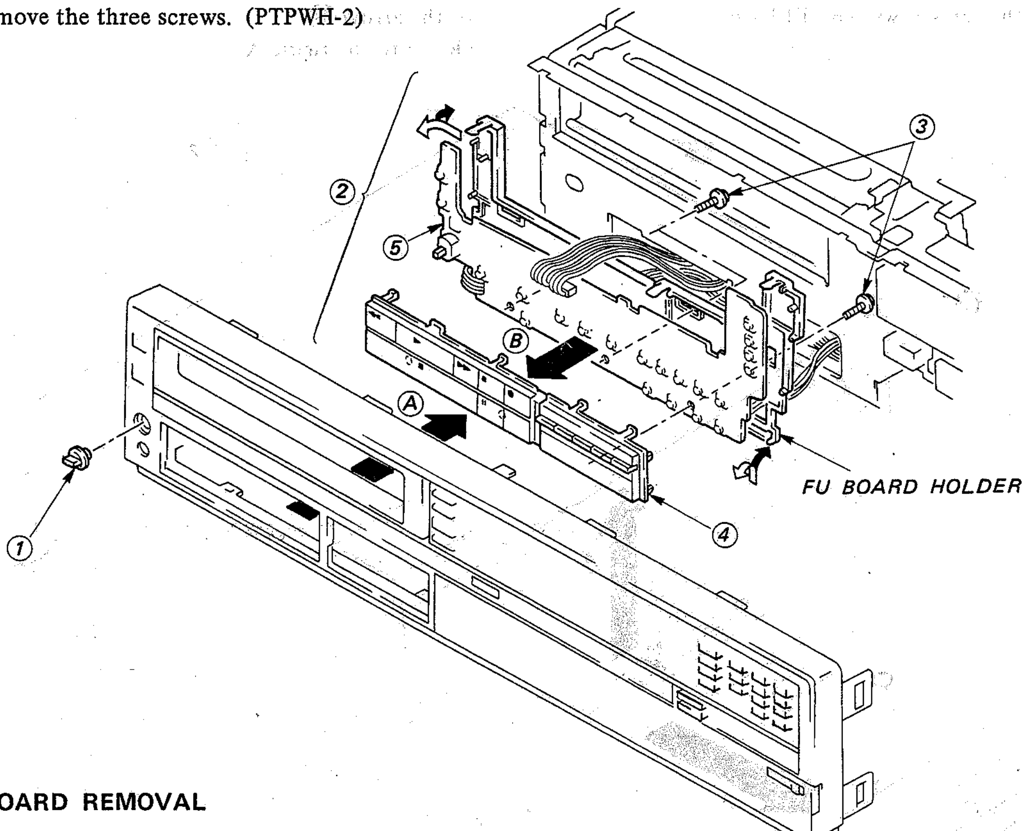
2-2. FU-11 BOARD REMOVAL

① Remove the HEAD PHONE volume-knob and the FU board assembly in the direction of the arrow Ⓐ.

② Remove the three screws. (PTPWH-2)

③ Remove the FU board button assembly in the direction of the arrow Ⓑ.

④ Remove the FU-11 board.

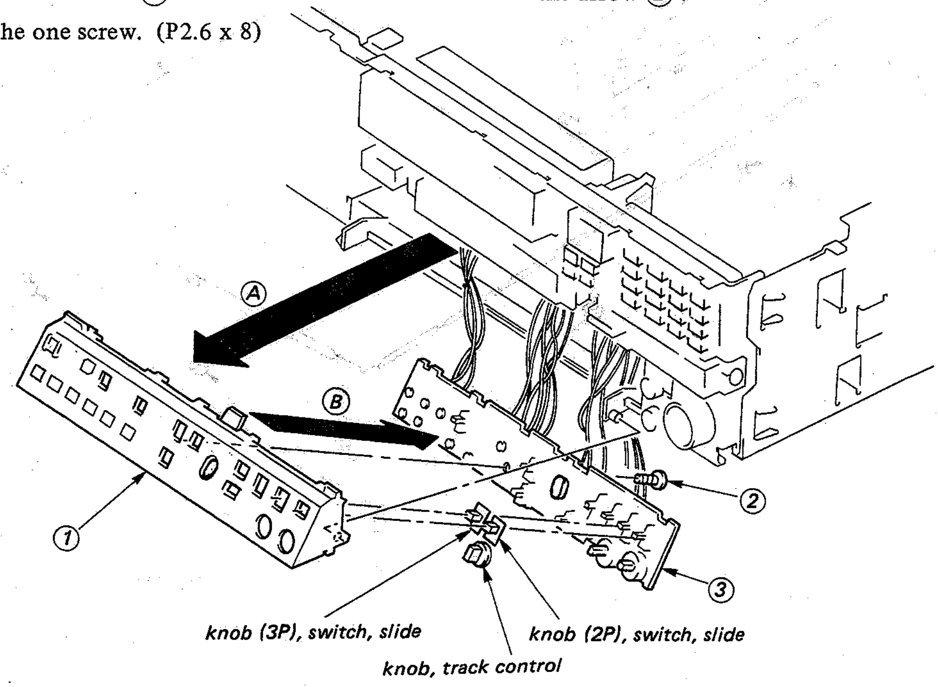

③
②
⑤
Ⓑ
Ⓐ
FU BOARD HOLDER
④
①

2-3. SW-22 BOARD REMOVAL

① Remove the front sub panel assembly in the direction of the arrow Ⓐ.

② Remove the one screw. (P2.6 x 8)

③ Remove the SW-22 board in the direction of the arrow Ⓑ.


Ⓐ
Ⓑ
②
①
③
knob (3P), switch, slide
knob (2P), switch, slide
knob, track control

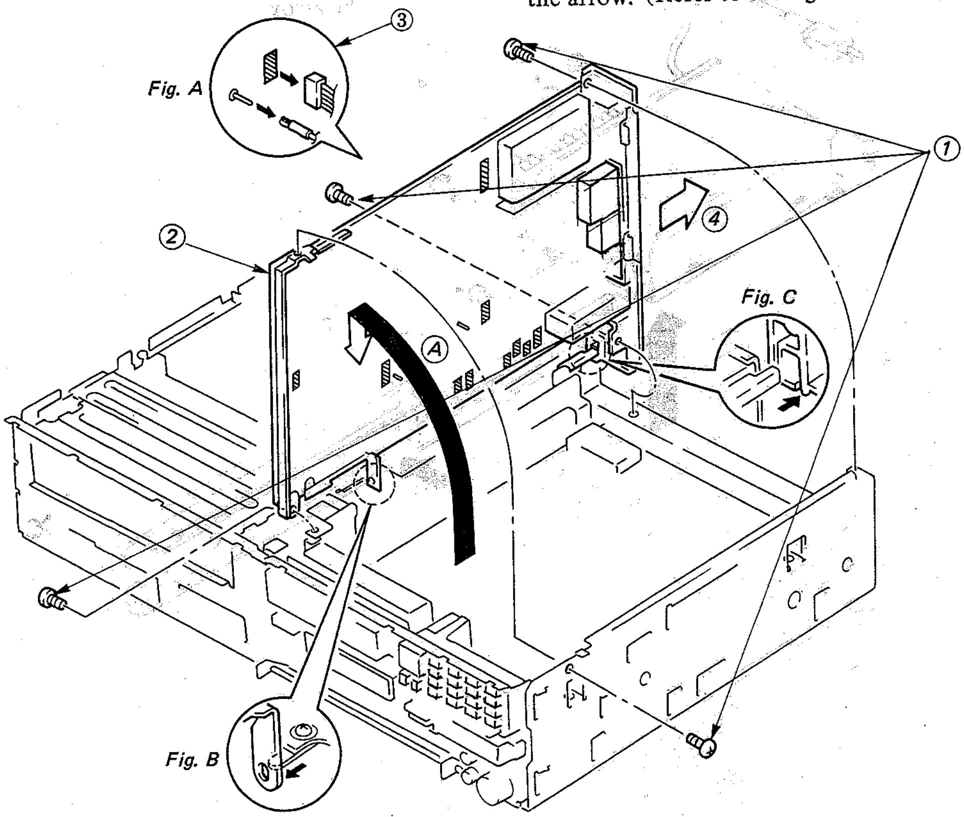
2-4. TU-33 BOARD REMOVAL

① Remove the four screws. (BVTT3 x 6)

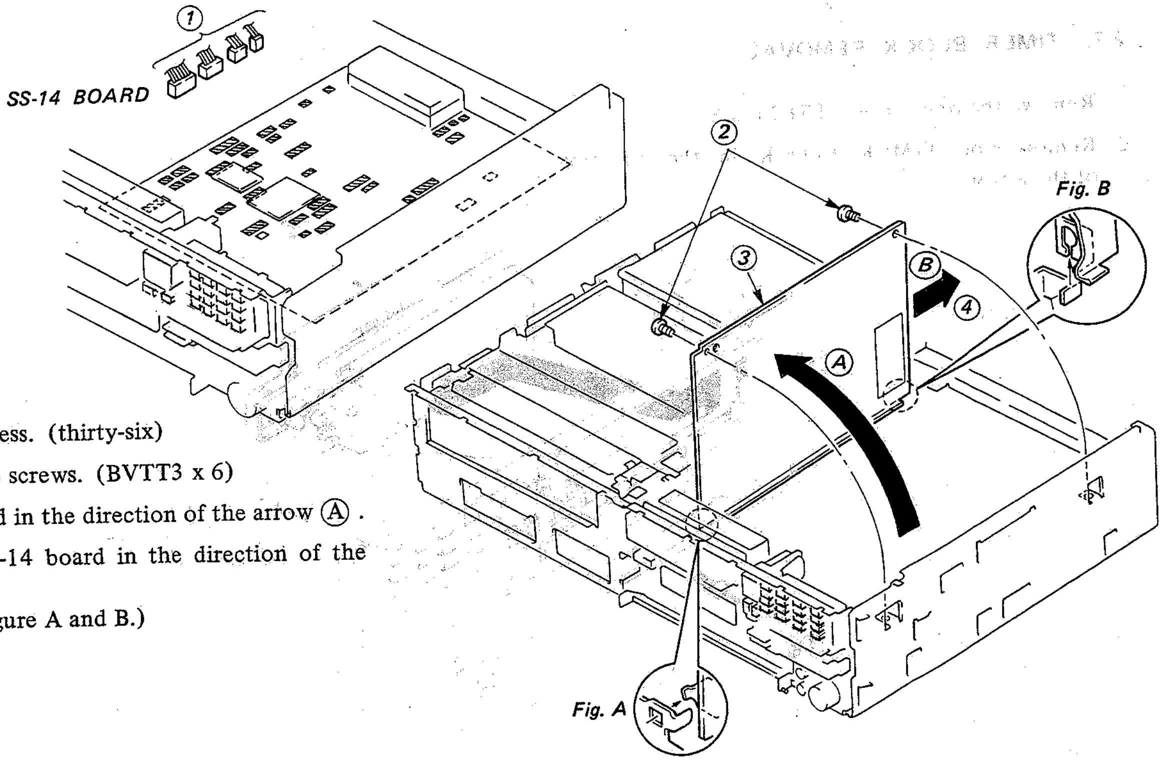
② Lift TU-33 board in the direction of the arrow Ⓐ.

③ Disconnect harness. (twelve)

④ Remove the TU-33 board in the direction of the arrow. (Refer to the figure B and C)



2-5. SS-14 BOARD REMOVAL



① Disconnect harness. (thirty-six)

② Remove the two screws. (BVTT3 x 6)

③ Lift SS-14 board in the direction of the arrow Ⓐ.

④ Remove the SS-14 board in the direction of the arrow Ⓑ.
(Refer to the figure A and B.)

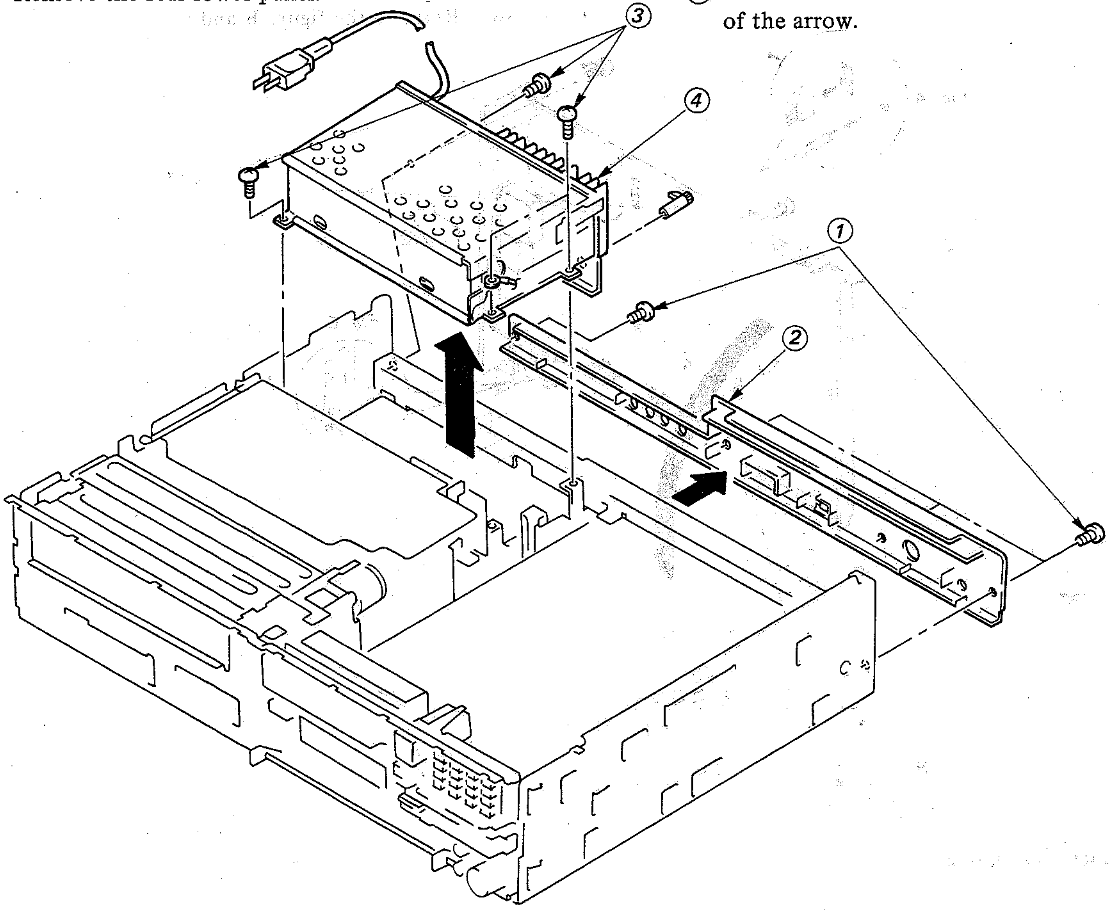
2-6. POWER BLOCK REMOVAL

① Remove the four screws. (BVTT3 x 6)

② Remove the rear lower panel.

③ Remove the four screws. (BVTT2.6 x 6)

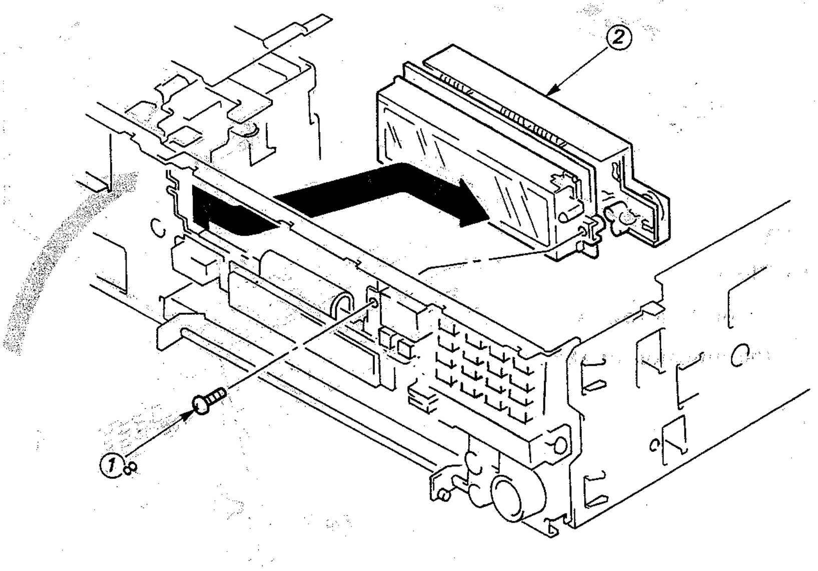
④ Remove the POWER BLOCK in the direction of the arrow.



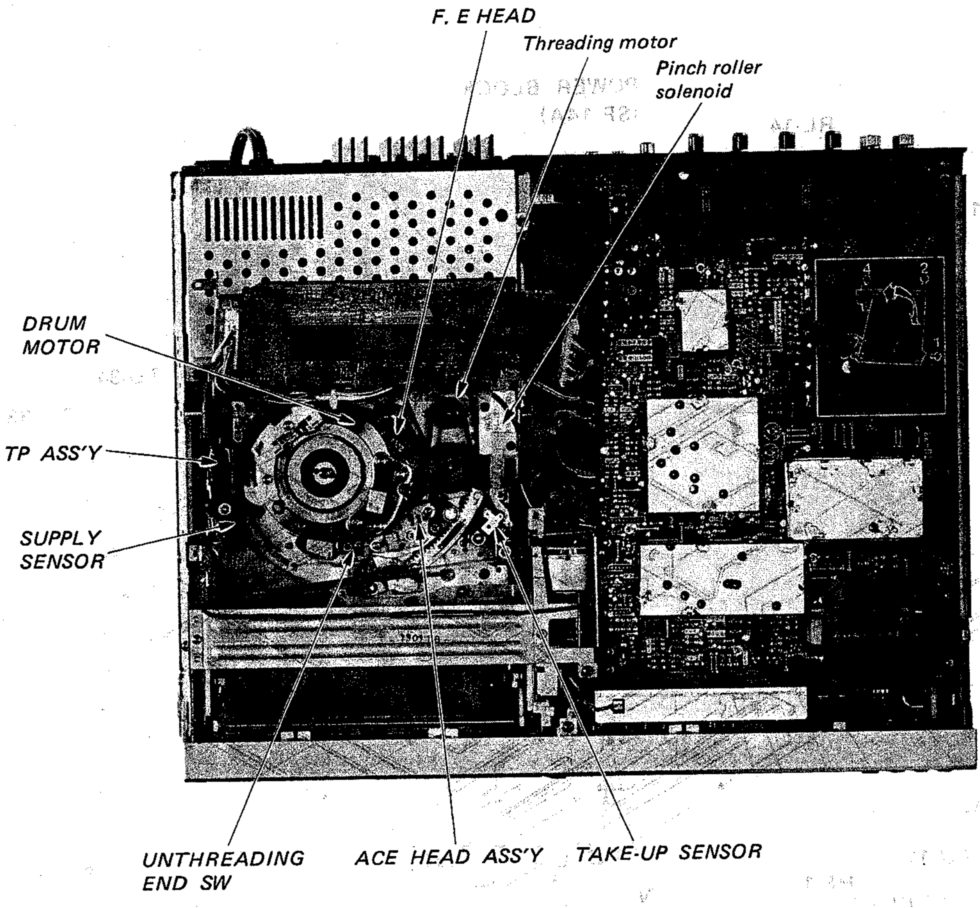
2-7. TIMER BLOCK REMOVAL

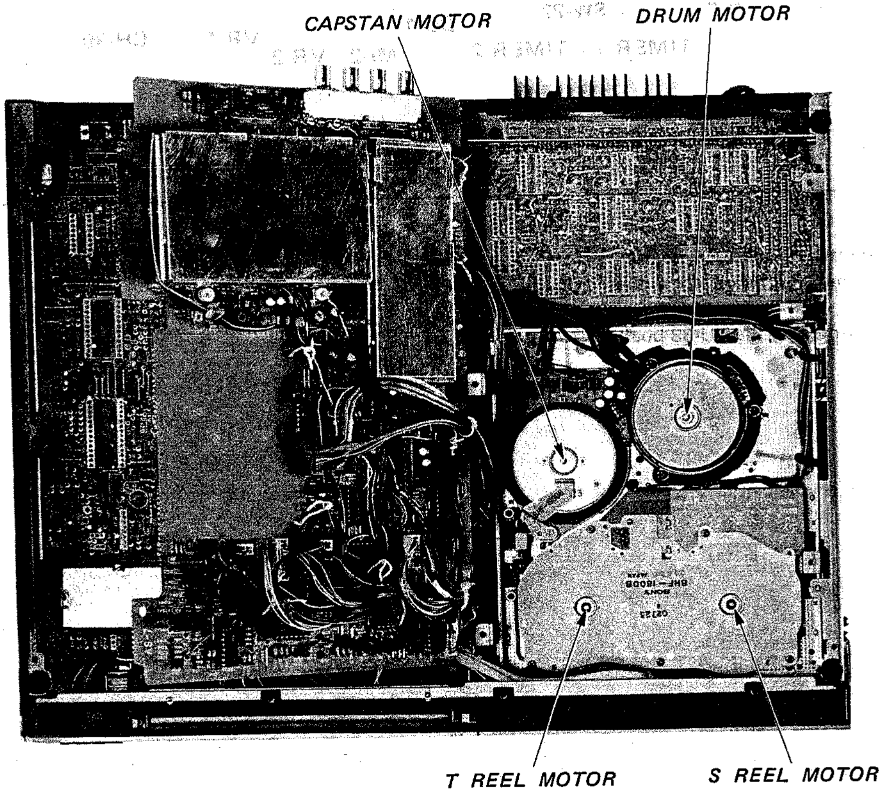
① Remove the one screw. (PTP2.6 x 8)

② Remove the TIMER BLOCK in the direction of the arrow.



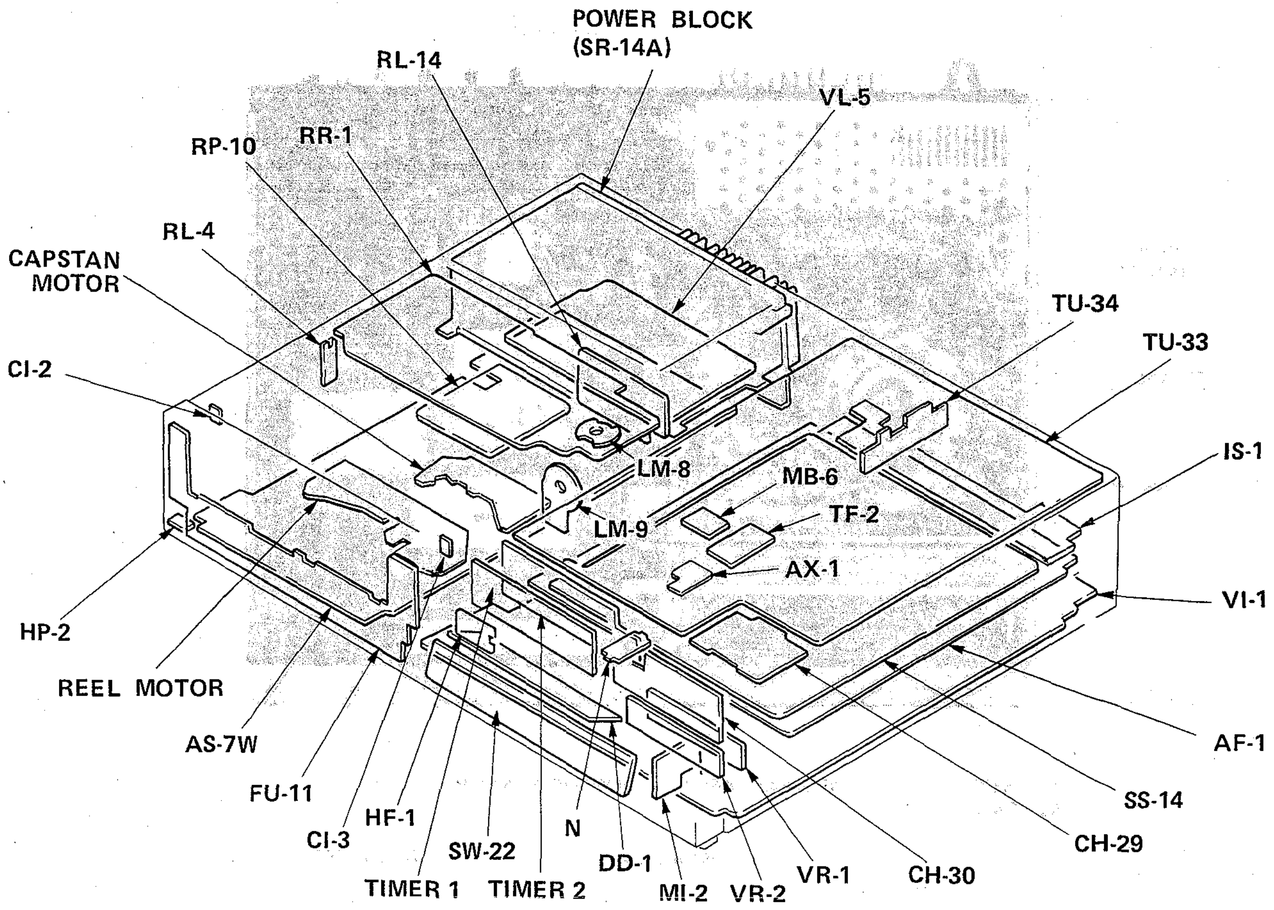
2-8. INSIDE VIEWS


F. E HEAD
Threading motor
Pinch roller solenoid
DRUM MOTOR
TP ASS'Y
SUPPLY SENSOR
UNTHREADING END SW
ACE HEAD ASS'Y
TAKE-UP SENSOR


CAPSTAN MOTOR
DRUM MOTOR
T REEL MOTOR
S REEL MOTOR

SECTION 3
BLOCK DIAGRAMS

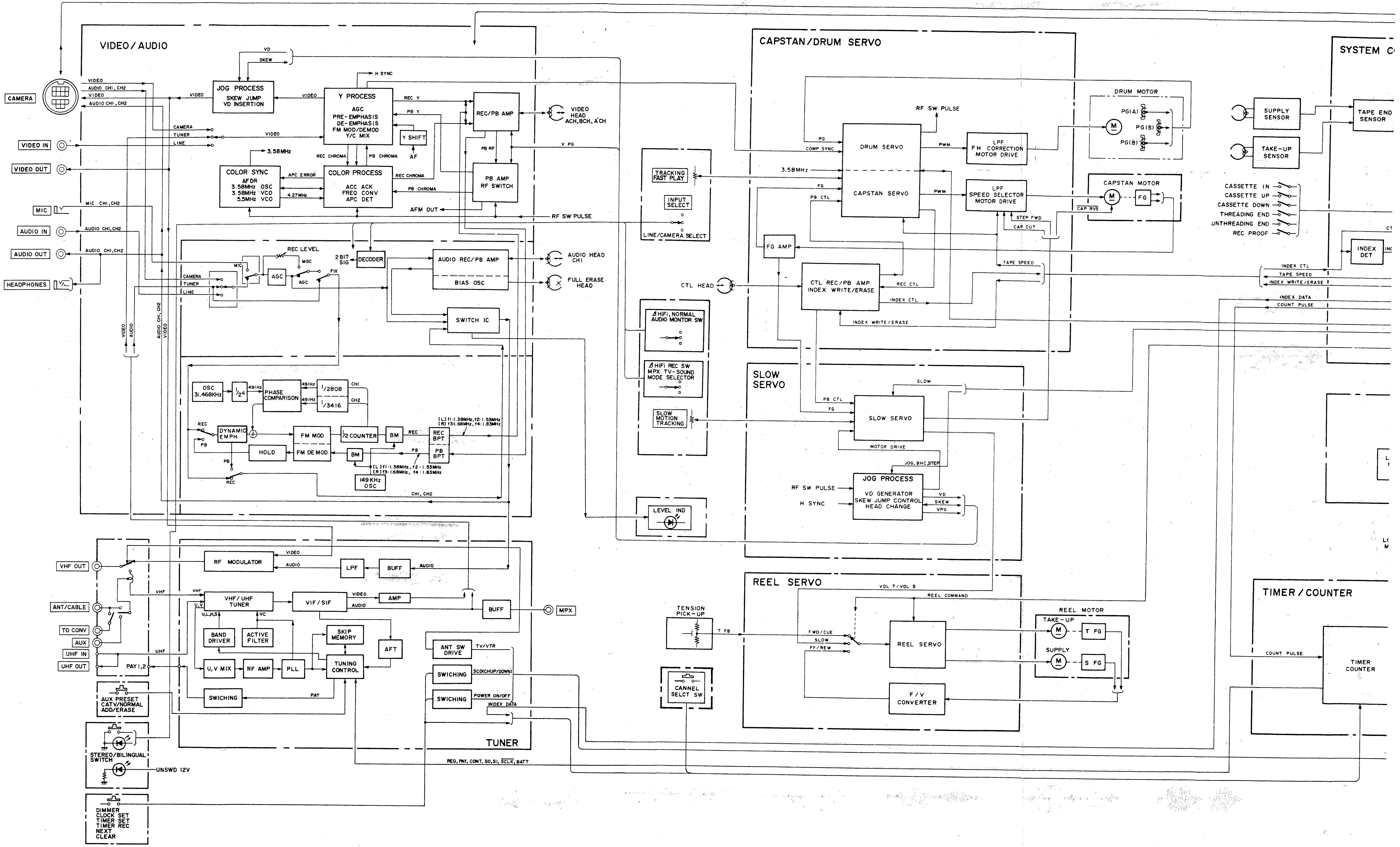
3-1. CIRCUIT BOARDS LOCATION

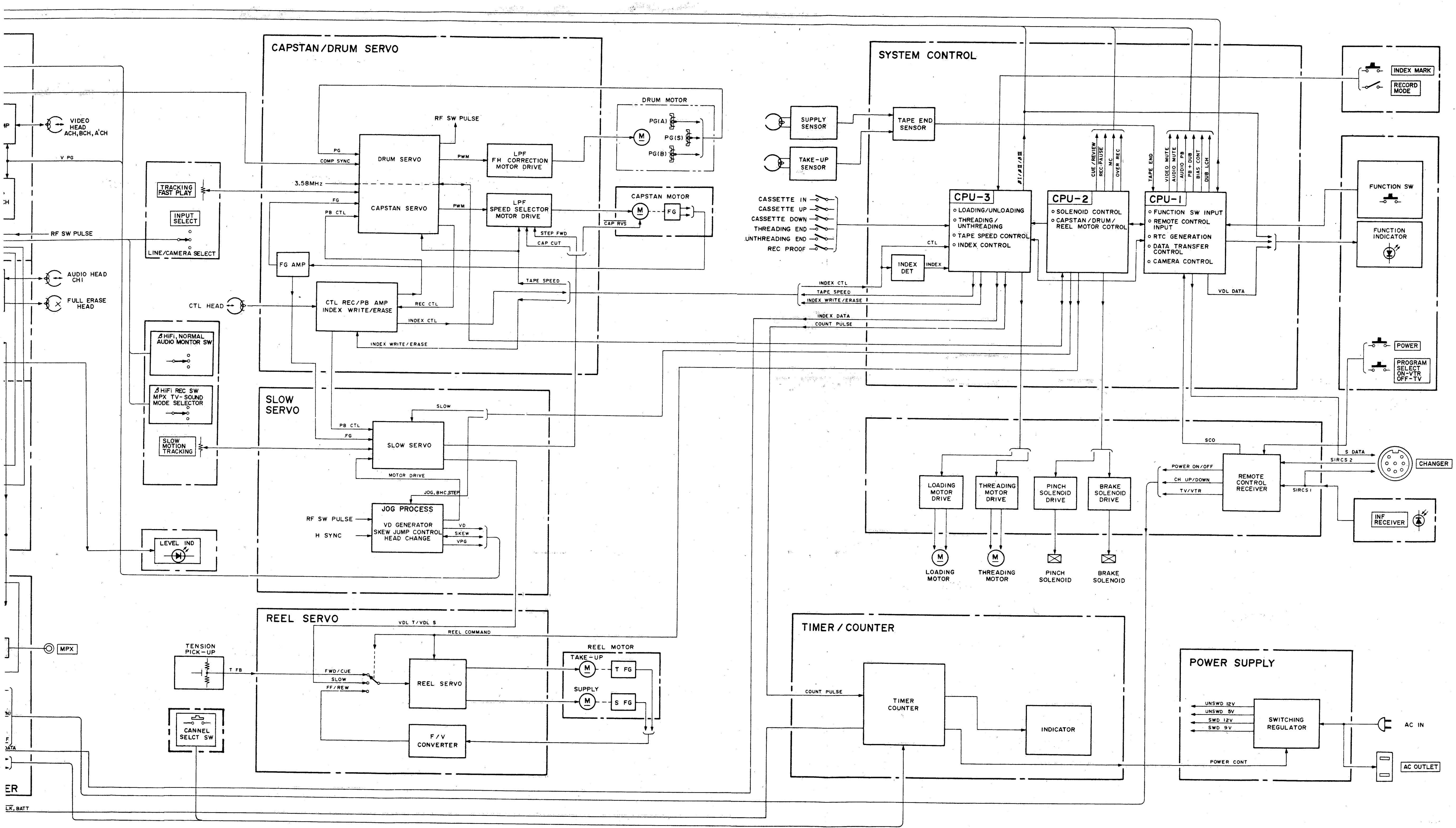

POWER BLOCK (SR-14A)
RL-14
VL-5
RP-10
RR-1
RL-4
CAPSTAN MOTOR
TU-34
TU-33
CI-2
LM-8
MB-6
IS-1
TF-2
LM-9
AX-1
VI-1
HP-2
REEL MOTOR
AF-1
AS-7W
SS-14
FU-11
HF-1
CH-29
CI-3
N
SW-22
DD-1
VR-1
CH-30
TIMER 1
TIMER 2
MI-2
VR-2

Note:

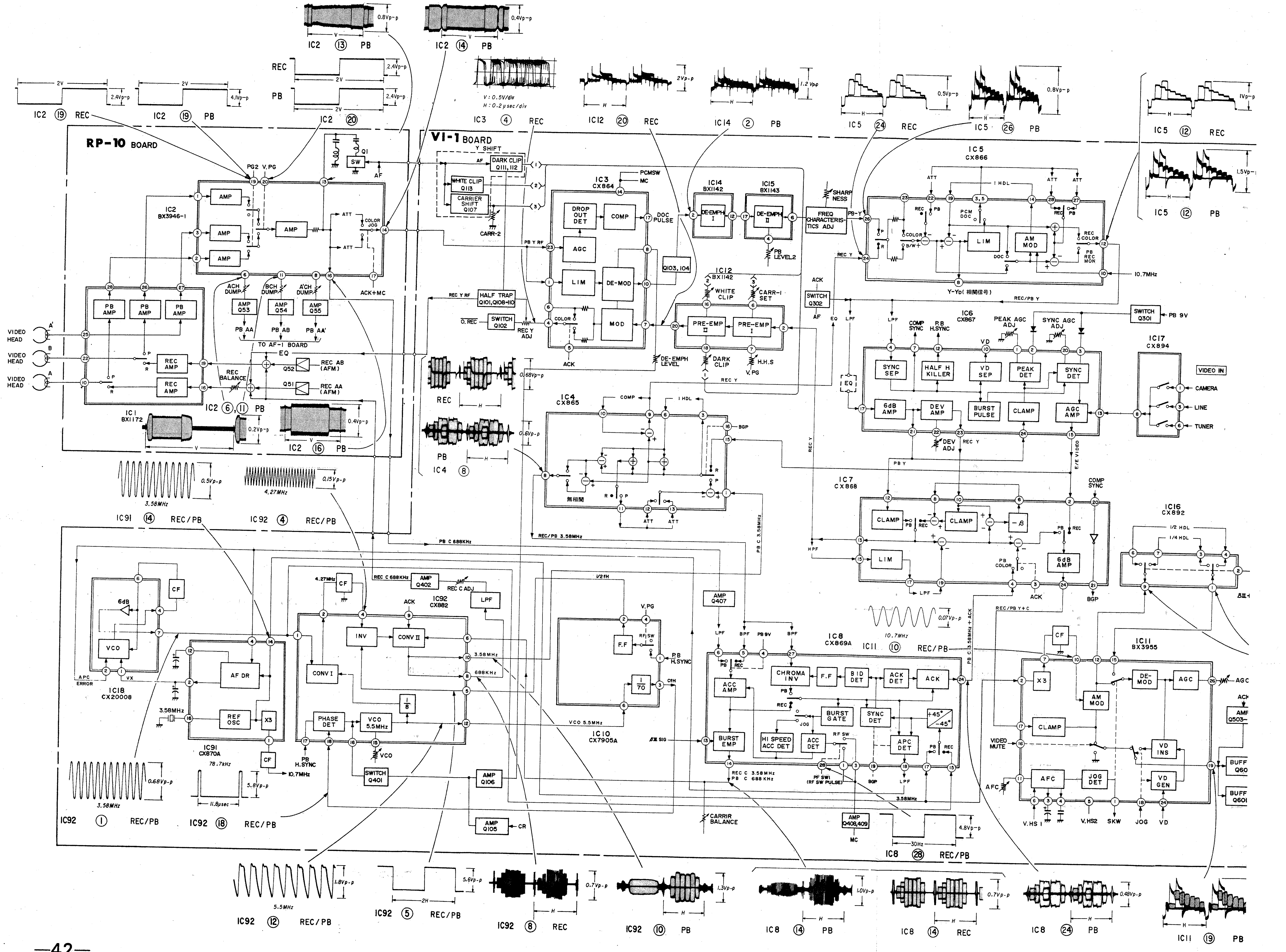
1. The AX-1 board is mounted on the AF-1 board.
2. The MB-6 board and the TF-2 board are mounted on the SS-14 board.
3. The TU-34 board is mounted on the TU-33 board.

3-2. OVERALL BLOCK DIAGRAM

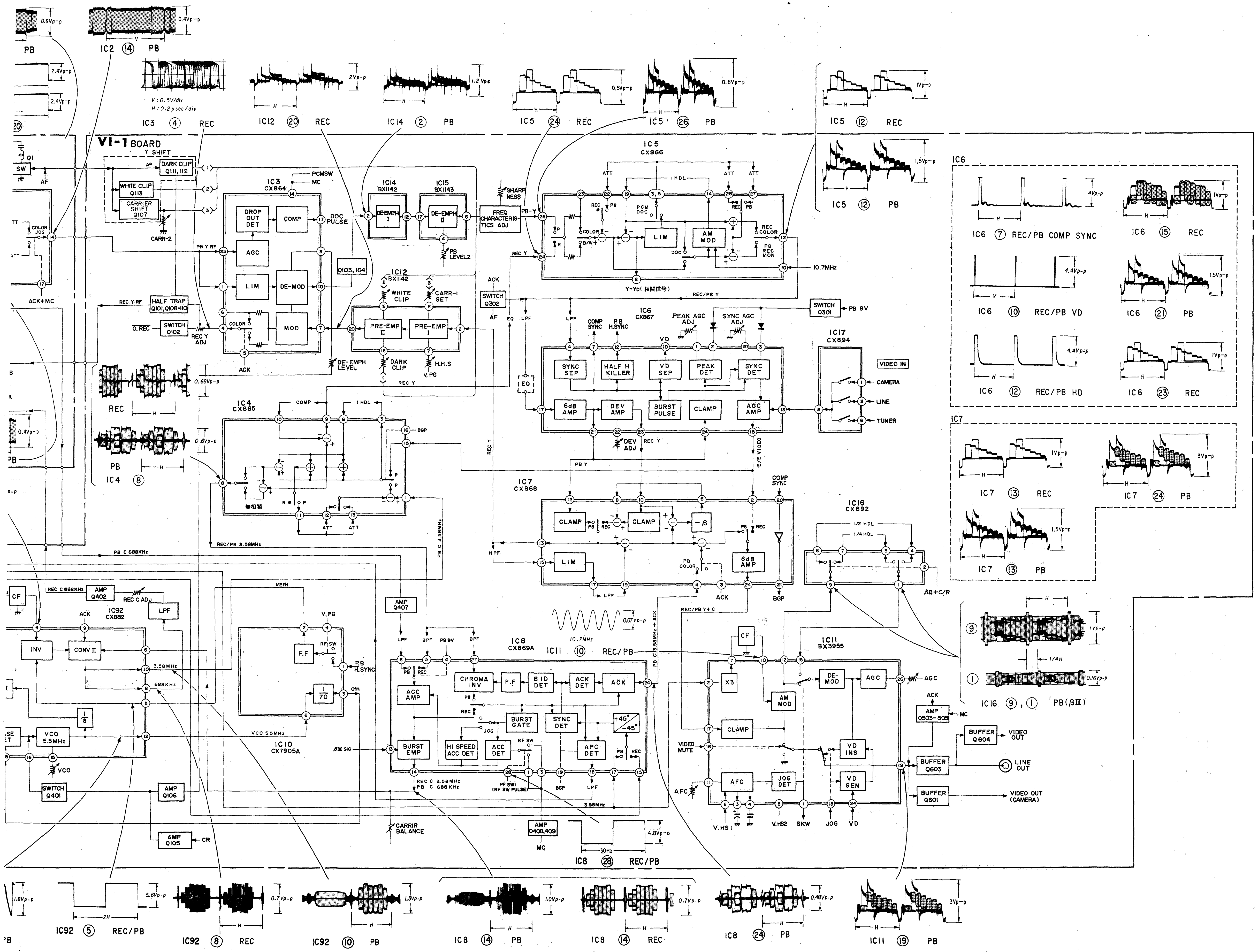

VIDEO/AUDIO
CAMERA
VIDEO IN
VIDEO OUT
MIC
AUDIO IN
AUDIO OUT
HEADPHONES
JOG PROCESS
SKEW JUMP
VD INSERTION
Y PROCESS
AGC
PRE-EMPHASIS
DE-EMPHASIS
FM MOD/DEMOD
Y/C MIX
Y SHIFT
AF
COLOR SYNC
AFDR
3.58MHz OSC
3.58MHz VCO
5.5MHz VCO
COLOR PROCESS
ACC ACK
FREQ CONV
APC DET
3.58MHz
4.27MHz
APC ERROR
REC CHROMA
PB CHROMA
AFM OUT
REC/PB AMP
PB AMP
RF SWITCH
VIDEO HEAD
ACH,BCH,A'CH
PB RF
V PG
RF SW PULSE
H SYNC
REC Y
PB Y
REC LEVEL
MGC
AGC
FIX
2 BIT SIG
DECODER
AUDIO REC/PB AMP
BIAS OSC
AUDIO HEAD CH1
FULL ERASE HEAD
SWITCH IC
OSC 31.468KHz
1/2^6
PHASE COMPARISON
1/2808
1/3416
DYNAMIC EMPH.
HOLD
FM MOD
FM DEMOD
1/2 COUNTER
BM
REC BPT
PB BPT
149KHz OSC
CH1, CH2
RF MODULATOR
LPF
BUFF
VHF OUT
ANT/CABLE
TO CONV
AUX
UHF IN
UHF OUT
VHF/UHF TUNER
VIF/SIF
AMP
BUFF
MPX
BAND DRIVER
ACTIVE FILTER
SKIP MEMORY
AFT
U,V MIX
RF AMP
PLL
TUNING CONTROL
SWICHING
PAY
PAY 1,2
ANT SW DRIVE
TV/VTR
SWICHING
SCK(CHUP/DOWN)
POWER ON/OFF
INDEX DATA
TUNER
REG, PAY, CONT, SO, SI, SCLK, BATT
AUX PRESET
CATV/NORMAL
ADD/ERASE
STEREO/BILINGUAL SWITCH
UNSWD 12V
DIMMER
CLOCK SET
TIMER SET
TIMER REC
NEXT
CLEAR
TRACKING
FAST PLAY
INPUT SELECT
LINE/CAMERA SELECT
β HiFi, NORMAL AUDIO MONTOR SW
β HiFi REC SW
MPX TV-SOUND MODE SELECTOR
SLOW MOTION TRACKING
LEVEL IND
CAPSTAN/DRUM SERVO
DRUM SERVO
CAPSTAN SERVO
RF SW PULSE
PG
COMP SYNC
3.58MHz
FG
PB CTL
PWM
LPF
FH CORRECTION
MOTOR DRIVE
LPF
SPEED SELECTOR
MOTOR DRIVE
DRUM MOTOR
PG(A)
PG(S)
PG(B)
CAPSTAN MOTOR
CAP RVS
STEP FWD
CAP CUT
FG AMP
CTL HEAD
CTL REC/PB AMP
INDEX WRITE/ERASE
REC CTL
INDEX CTL
TAPE SPEED
INDEX WRITE/ERASE
SLOW SERVO
SLOW
MOTOR DRIVE
JOG, BHC, STEP
JOG PROCESS
VD GENERATOR
SKEW JUMP CONTROL
HEAD CHANGE
H SYNC
VD
SKEW
VPG
REEL SERVO
VDL T/VDL S
REEL COMMAND
TENSION PICK-UP
T FB
FWD/CUE
SLOW
FF/REW
REEL SERVO
F/V CONVERTER
REEL MOTOR
TAKE-UP
SUPPLY
T FG
S FG
CANNEL SELCT SW
SYSTEM C
SUPPLY SENSOR
TAKE-UP SENSOR
TAPE END SENSOR
CASSETTE IN
CASSETTE UP
CASSETTE DOWN
THREADING END
UNTHREADING END
REC PROOF
INDEX DET
INDEX CTL
TAPE SPEED
INDEX WRITE/ERASE
INDEX DATA
COUNT PULSE
TIMER/COUNTER
COUNT PULSE
TIMER COUNTER


CAPSTAN/DRUM SERVO
VIDEO HEAD ACH, BCH, A'CH
V PG
RF SW PULSE
AUDIO HEAD CHI
FULL ERASE HEAD
TRACKING FAST PLAY
INPUT SELECT
LINE/CAMERA SELECT
βHIFi, NORMAL AUDIO MONTOR SW
βHIFi REC SW MPX TV-SOUND MODE SELECTOR
SLOW MOTION TRACKING
LEVEL IND
CTL HEAD
PG
COMP SYNC
3.58MHz
FG
PB CTL
DRUM SERVO
CAPSTAN SERVO
RF SW PULSE
PWM
LPF FH CORRECTION MOTOR DRIVE
LPF SPEED SELECTOR MOTOR DRIVE
STEP FWD
CAP CUT
CAP RVS
DRUM MOTOR
PG(A)
PG(S)
PG(B)
M
CAPSTAN MOTOR
FG
FG AMP
CTL REC/PB AMP INDEX WRITE/ERASE
REC CTL
INDEX CTL
TAPE SPEED
INDEX WRITE/ERASE
SLOW SERVO
SLOW
PB CTL
FG
MOTOR DRIVE
JOG, BHC STEP
JOG PROCESS
VD GENERATOR SKEW JUMP CONTROL HEAD CHANGE
RF SW PULSE
H SYNC
VD
SKEW
VPG
REEL SERVO
VDL T/VDL S
REEL COMMAND
FWD/CUE
SLOW
FF/REW
T FB
TENSION PICK-UP
F/V CONVERTER
REEL MOTOR
TAKE-UP
T FG
SUPPLY
S FG
MPX
CANNEL SELCT SW
SYSTEM CONTROL
SUPPLY SENSOR
TAKE-UP SENSOR
TAPE END SENSOR
CASSETTE IN
CASSETTE UP
CASSETTE DOWN
THREADING END
UNTHREADING END
REC PROOF
INDEX DET
CTL
INDEX
βI/βII/βIII
CUE/REVIEW
REC-PAUSE
MC
OVER REC
TAPE END
VIDEO MUTE
AUDIO MUTE
AUDIO PB
PB+DUB
BIAS CONT
DUB LCH
CPU-3
o LOADING/UNLOADING
o THREADING/UNTHREADING
o TAPE SPEED CONTROL
o INDEX CONTROL
CPU-2
o SOLENOID CONTROL
o CAPSTAN/DRUM/REEL MOTOR COTROL
CPU-1
o FUNCTION SW INPUT
o REMOTE CONTROL INPUT
o RTC GENERATION
o DATA TRANSFER CONTROL
o CAMERA CONTROL
VDL DATA
INDEX CTL
TAPE SPEED
INDEX WRITE/ERASE
INDEX DATA
COUNT PULSE
INDEX MARK
RECORD MODE
FUNCTION SW
FUNCTION INDICATOR
POWER
PROGRAM SELECT ON-VTR OFF-TV
LOADING MOTOR DRIVE
THREADING MOTOR DRIVE
PINCH SOLENOID DRIVE
BRAKE SOLENOID DRIVE
LOADING MOTOR
THREADING MOTOR
PINCH SOLENOID
BRAKE SOLENOID
SCO
S DATA
SIRCS 2
SIRCS 1
CHANGER
POWER ON/OFF
CH UP/DOWN
TV/VTR
REMOTE CONTROL RECEIVER
INF RECEIVER
TIMER/COUNTER
COUNT PULSE
TIMER COUNTER
INDICATOR
POWER SUPPLY
UNSWD 12V
UNSWD 5V
SWD 12V
SWD 9V
SWITCHING REGULATOR
POWER CONT
AC IN
AC OUTLET

3-3. VIDEO SYSTEM BLOCK DIAGRAM

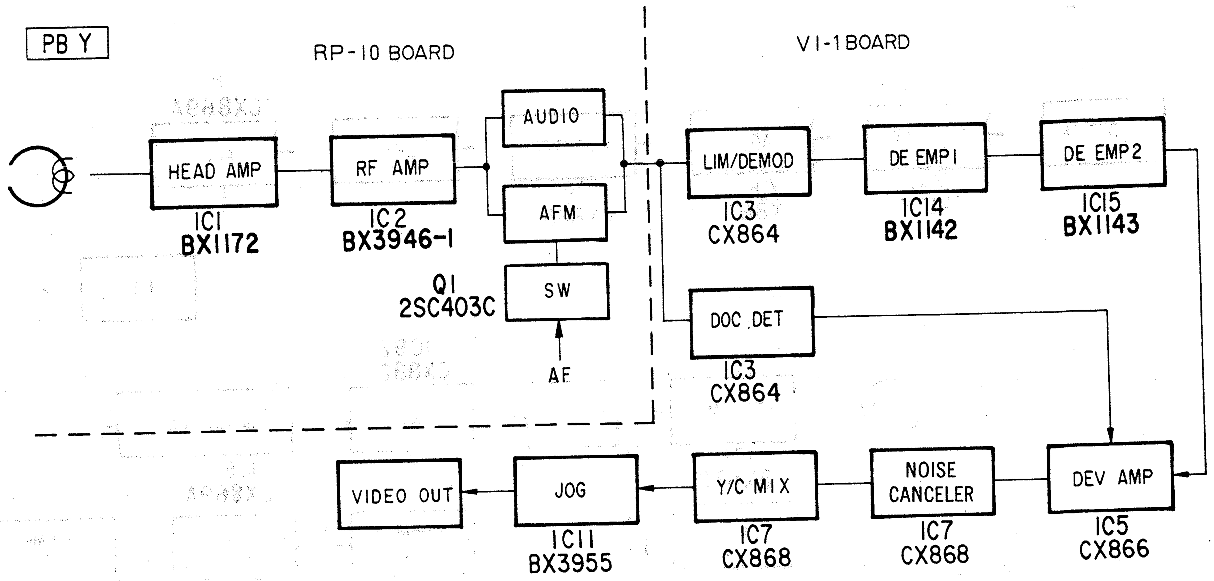


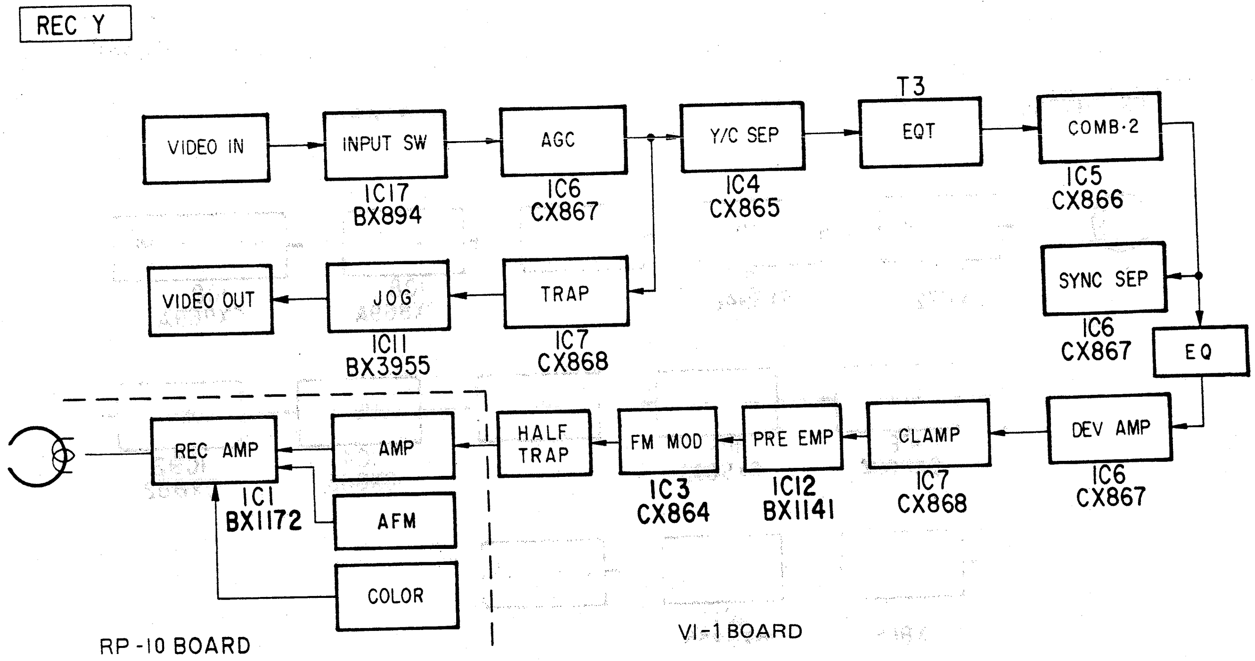
RP-10 BOARD
VI-1 BOARD
IC1 BX1172
IC2 BX3946-1
IC3 CX864
IC4 CX865
IC5 CX866
IC6 CX867
IC7 CX868
IC8 CX869A
IC10 CX7905A
IC11 BX3955
IC12 BX1142
IC14 BX1142
IC15 BX1143
IC16 CX892
IC17 CX894
IC18 CX20008
IC91 CX870A
IC92 CX882
VIDEO HEAD
PB AMP
REC AMP
REC BALANCE
ACH DUMP
BCH DUMP
A'CH DUMP
AMP Q53
AMP Q54
AMP Q55
TO AF-1 BOARD
EQ
REC AB (AFM)
REC AA (AFM)
Q52
Q51
SW
Q1
WHITE CLIP Q113
CARRIER SHIFT Q107
DARK CLIP Q111,112
Y SHIFT
CARR-2
HALF TRAP Q101,Q108-110
SWITCH Q102
REC Y ADJ
DROP OUT DET
COMP
AGC
LIM
DE-MOD
MOD
DOC PULSE
Q103,104
PCMSW
MC
DE-EMPH I
DE-EMPH II
PB LEVEL2
PRE-EMP I
PRE-EMP II
WHITE CLIP
CARR-1 SET
DARK CLIP
DE-EMPH LEVEL
H.H.S
V.PG
SHARPNESS
FREQ CHARACTERISTICS ADJ
AM MOD
1 HDL
PCM DOC
10.7MHz
Y-Y0 (相関信号)
SWITCH Q302
SWITCH Q301
PB 9V
SYNC SEP
HALF H KILLER
VD SEP
PEAK DET
SYNC DET
PEAK AGC ADJ
SYNC AGC ADJ
6dB AMP
DEV AMP
BURST PULSE
CLAMP
AGC AMP
DEV ADJ
VIDEO IN
CAMERA
LINE
TUNER
COMP SYNC
E/E VIDEO
无相関
ATT
REC/PB 3.58MHz
PB C 688KHz
CLAMP
LIM
PB COLOR
ACK
BGP
1/2 HDL
1/4 HDL
VCO
6dB
CF
APC ERROR
VX
AF DR
REF OSC
X3
3.58MHz
4.27MHz
INV
CONV I
CONV II
PHASE DET
VCO 5.5MHz
1/8
LPF
AMP Q402
REC C ADJ
REC C 688KHz
SWITCH Q401
AMP Q106
AMP Q105
CR
PB H.SYNC
1/2fH
F.F
1/70
RF SW
VCO 5.5MHz
AMP Q407
ACC AMP
CHROMA INV
BID DET
ACK DET
ACK
BURST GATE
SYNC DET
+45° -45°
HI SPEED ACC DET
ACC DET
APC DET
BURST EMP
PF SW1 (RF SW PULSE)
CARRIR BALANCE
AMP Q408,409
DE-MOD
AGC
AM MOD
VD INS
VD GEN
AFC
JOG DET
VIDEO MUTE
V.HS1
V.HS2
SKW
JOG
VD
BUFF Q60
IC2 ⑲ REC
IC2 ⑲ PB
IC2 ⑳
IC2 ⑬ PB
IC2 ⑭ PB
IC2 ⑥,⑪ PB
IC2 ⑯ PB
IC3 ④ REC
V: 0.5V/div
H: 0.2μsec/div
IC12 ⑳ REC
IC14 ② PB
IC5 ㉔ REC
IC5 ㉖ PB
IC5 ⑫ REC
IC5 ⑫ PB
IC4 ⑧
IC91 ⑭ REC/PB
IC92 ④ REC/PB
IC92 ① REC/PB
IC92 ⑱ REC/PB
IC92 ⑫ REC/PB
IC92 ⑤ REC/PB
IC92 ⑧ REC
IC92 ⑩ PB
IC8 ⑭ PB
IC8 ⑭ REC
IC8 ㉔ PB
IC8 ㉘ REC/PB
IC11 ⑩ REC/PB
IC11 ⑲ PB
3.58MHz
4.27MHz
5.5MHz
10.7MHz
11.8μsec
30Hz



VI-1 BOARD
IC2 ⑭ PB
IC3 ④ REC
V : 0.5V/div
H : 0.2 μsec/div
IC12 ⑳ REC
IC14 ② PB
IC5 ㉔ REC
IC5 ㉖ PB
IC5 ⑫ REC
IC5 ⑫ PB
Y SHIFT
DARK CLIP Q111, 112
WHITE CLIP Q113
CARRIER SHIFT Q107
CARR-2
IC3 CX864
DROP OUT DET
COMP
AGC
LIM
DE-MOD
MOD
DOC PULSE
PCMSW
MC
IC14 BX1142
DE-EMPH I
IC15 BX1143
DE-EMPH II
PB LEVEL2
FREQ CHARACTERISTICS ADJ
SHARPNESS
Q103, 104
IC12 BX1142
WHITE CLIP
CARR-I SET
PRE-EMP II
PRE-EMP I
DARK CLIP
H.H.S
V. PG
DE-EMPH LEVEL
HALF TRAP Q101, Q108-110
SWITCH Q102
REC Y ADJ
REC Y RF
PB Y RF
ACK+MC
ACK
IC5 CX866
ATT
I HDL
LIM
AM MOD
PCM DOC
COLOR
B/W
REC MON
10.7MHz
Y-Yo(相関信号)
REC/PB Y
SWITCH Q302
SWITCH Q301
PB 9V
IC6 CX867
COMP SYNC
P.B H.SYNC
VD
PEAK AGC ADJ
SYNC AGC ADJ
SYNC SEP
HALF H KILLER
VD SEP
PEAK DET
SYNC DET
6dB AMP
DEV AMP
BURST PULSE
CLAMP
AGC AMP
DEV ADJ
EQ
LPF
IC17 CX894
VIDEO IN
CAMERA
LINE
TUNER
IC4 CX865
IC4 ⑧
REC
PB
無相関
ATT
BGP
REC/PB 3.58MHz
PB C 688KHz
PB C 3.58MHz
IC7 CX868
CLAMP
LIM
6dB AMP
-β
HPF
E/E VIDEO
PB COLOR
COMP SYNC
IC16 CX892
1/2 HDL
1/4 HDL
βII+C/R
IC6
IC6 ⑦ REC/PB COMP SYNC
IC6 ⑮ REC
IC6 ⑩ REC/PB VD
IC6 ㉑ PB
IC6 ⑫ REC/PB HD
IC6 ㉓ REC
IC7
IC7 ⑬ REC
IC7 ㉔ PB
IC7 ⑬ PB
IC16 ⑨, ① PB(βIII)
REC C 688KHz
AMP Q402
REC C ADJ
IC92 CX882
INV
CONV II
LPF
VCO 5.5MHz
VCO
SWITCH Q401
AMP Q106
AMP Q105
CR
1/8
IC10 CX7905A
F.F
1/70
V.PG
PB H.SYNC
CfH
VCO 5.5MHz
AMP Q407
IC8 CX869A
IC11 ⑩ REC/PB
10.7MHz
CHROMA INV
F.F
BID DET
ACK DET
ACK
ACC AMP
BURST GATE
SYNC DET
+45° -45°
BURST EMP
HI SPEED ACC DET
ACC DET
APC DET
RF SW
PF SW1 (RF SW PULSE)
REC C 3.58MHz
PB C 688KHz
CARRIR BALANCE
AMP Q408,409
IC8 ㉘ REC/PB
30Hz
REC/PB Y+C
PB C 3.58MHz + ACK
IC11 BX3955
CF
X3
AM MOD
DE-MOD
AGC
CLAMP
VIDEO MUTE
VD INS
AFC
JOG DET
VD GEN
AFC
V.HS1
V.HS2
SKW
JOG
VD
AMP Q503-505
BUFFER Q604
VIDEO OUT
BUFFER Q603
LINE OUT
BUFFER Q601
VIDEO OUT (CAMERA)
IC92 ⑤ REC/PB
IC92 ⑧ REC
IC92 ⑩ PB
IC8 ⑭ PB
IC8 ⑭ REC
IC8 ㉔ PB
IC11 ⑲ PB

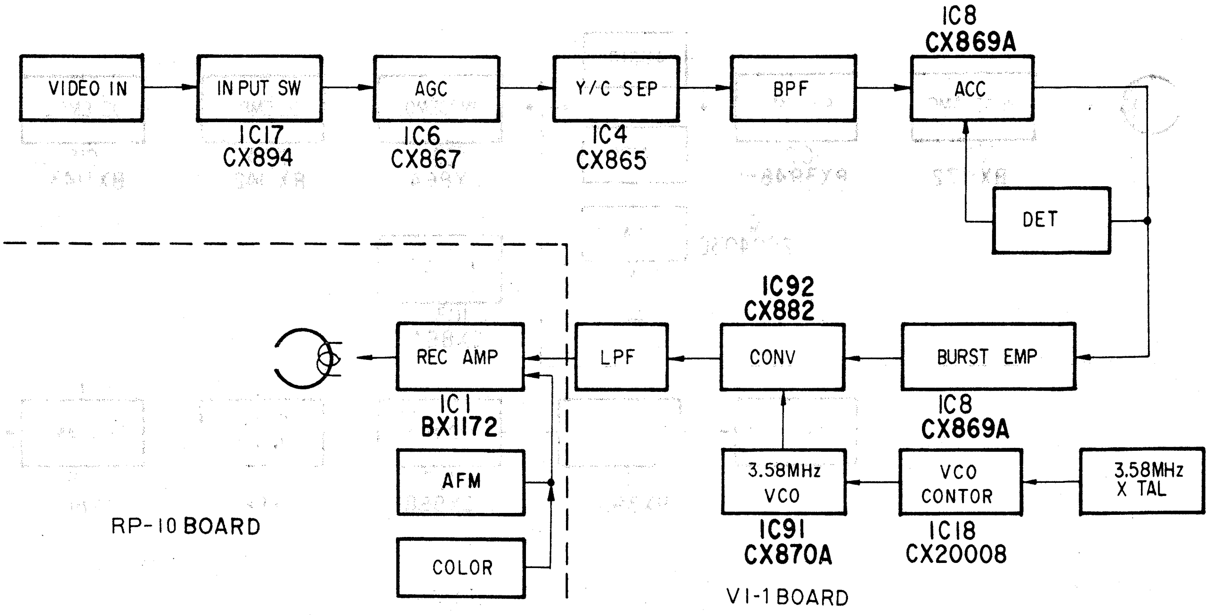
3-4. VIDEO Y BLOCK DIAGRAM


PB Y
RP-10 BOARD
VI-1 BOARD
HEAD AMP
IC1
BX1172
RF AMP
IC2
BX3946-1
AUDIO
AFM
SW
Q1
2SC403C
AF
LIM/DEMOD
IC3
CX864
DE EMP1
IC14
BX1142
DE EMP2
IC15
BX1143
DOC DET
IC3
CX864
DEV AMP
IC5
CX866
NOISE CANCELER
IC7
CX868
Y/C MIX
IC7
CX868
JOG
IC11
BX3955
VIDEO OUT

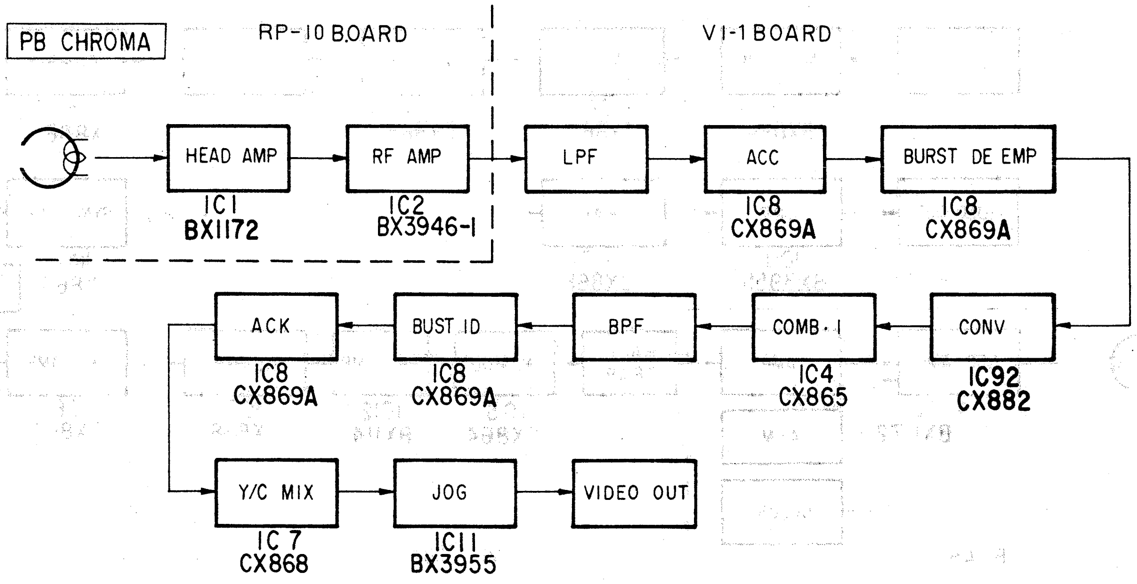

REC Y
VIDEO IN
INPUT SW
IC17
BX894
AGC
IC6
CX867
Y/C SEP
IC4
CX865
T3
EQT
COMB-2
IC5
CX866
SYNC SEP
IC6
CX867
EQ
VIDEO OUT
JOG
IC11
BX3955
TRAP
IC7
CX868
DEV AMP
IC6
CX867
CLAMP
IC7
CX868
PRE EMP
IC12
BX1141
FM MOD
IC3
CX864
HALF TRAP
AMP
REC AMP
IC1
BX1172
AFM
COLOR
RP-10 BOARD
VI-1 BOARD

3-5. VIDEO CHROMA BLOCK DIAGRAM

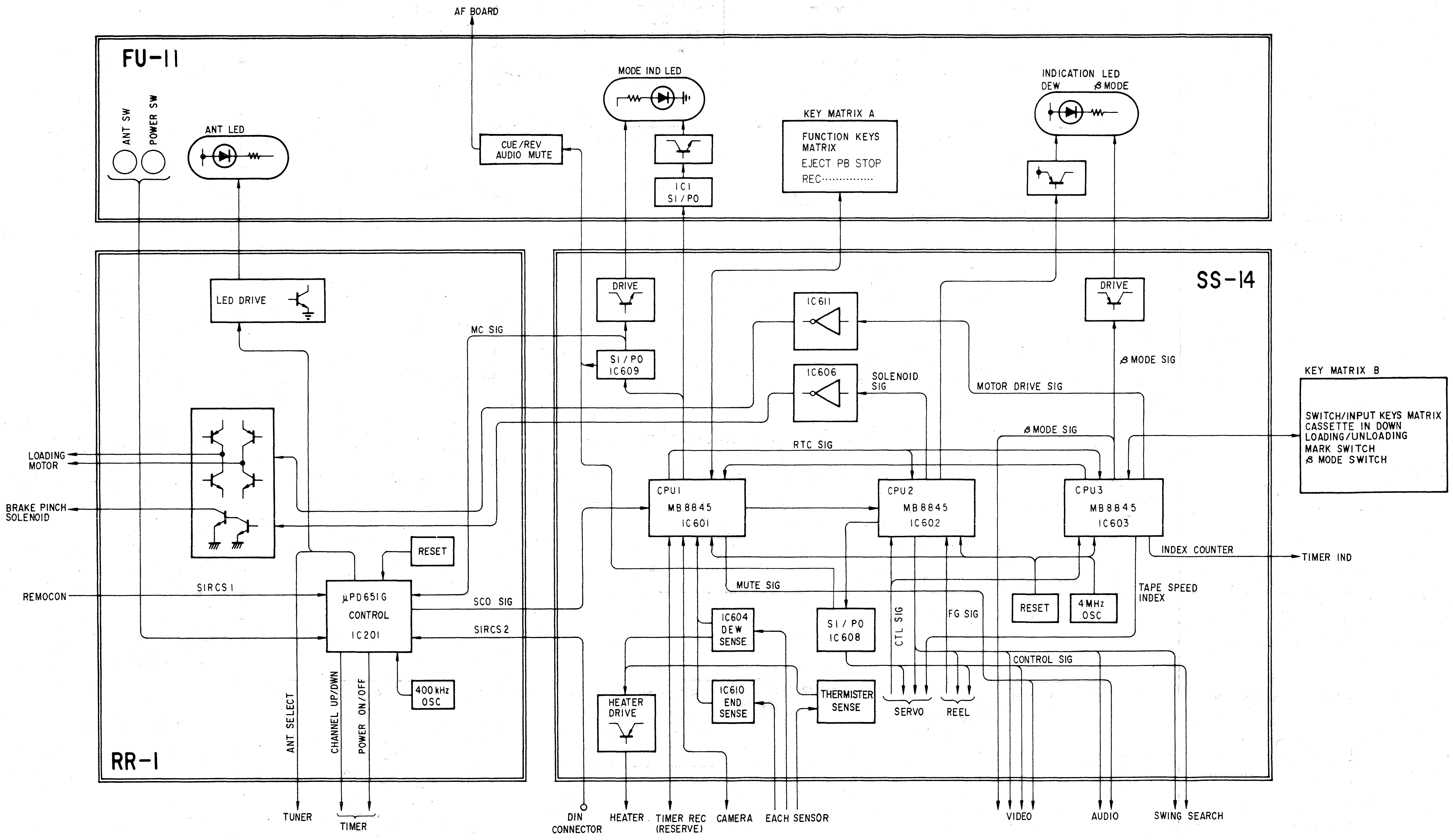
REC CHROMA


VIDEO IN
INPUT SW
IC17
CX894
AGC
IC6
CX867
Y/C SEP
IC4
CX865
BPF
IC8
CX869A
ACC
DET
IC92
CX882
REC AMP
IC1
BX1172
LPF
CONV
BURST EMP
IC8
CX869A
AFM
COLOR
3.58MHz
VCO
IC91
CX870A
VCO
CONTOR
IC18
CX20008
3.58MHz
X TAL
RP-10 BOARD
VI-1 BOARD

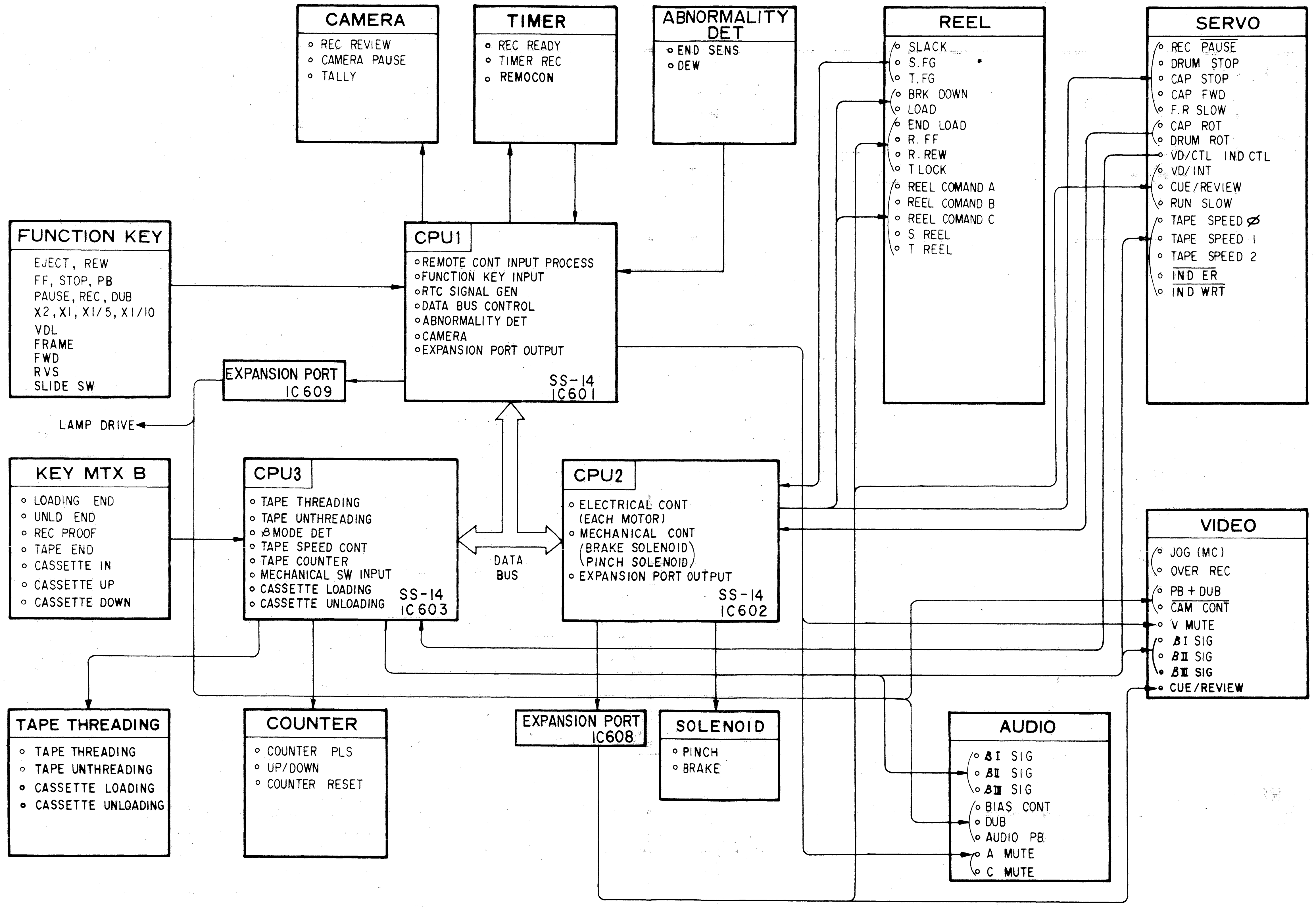
PB CHROMA


RP-10 BOARD
VI-1 BOARD
HEAD AMP
IC1
BX1172
RF AMP
IC2
BX3946-1
LPF
ACC
IC8
CX869A
BURST DE EMP
IC8
CX869A
ACK
IC8
CX869A
BUST ID
IC8
CX869A
BPF
COMB·I
IC4
CX865
CONV
IC92
CX882
Y/C MIX
IC 7
CX868
JOG
IC11
BX3955
VIDEO OUT

3-6. SYSTEM CONTROL BLOCK DIAGRAM (1)


AF BOARD
FU-11
ANT SW
POWER SW
ANT LED
CUE/REV AUDIO MUTE
MODE IND LED
IC1 SI/PO
KEY MATRIX A
FUNCTION KEYS MATRIX
EJECT PB STOP
REC················
INDICATION LED
DEW
β MODE
RR-1
LED DRIVE
MC SIG
LOADING MOTOR
BRAKE PINCH SOLENOID
REMOCON
SIRCS 1
RESET
μPD651G CONTROL IC201
SCO SIG
SIRCS 2
400 kHz OSC
ANT SELECT
CHANNEL UP/DOWN
POWER ON/OFF
TUNER
TIMER
SS-14
DRIVE
SI/PO IC609
IC611
IC606
SOLENOID SIG
MOTOR DRIVE SIG
β MODE SIG
RTC SIG
CPU1 MB8845 IC601
CPU2 MB8845 IC602
CPU3 MB8845 IC603
KEY MATRIX B
SWITCH/INPUT KEYS MATRIX
CASSETTE IN DOWN
LOADING/UNLOADING
MARK SWITCH
β MODE SWITCH
INDEX COUNTER
TIMER IND
MUTE SIG
TAPE SPEED INDEX
RESET
4MHz OSC
IC604 DEW SENSE
SI/PO IC608
CTL SIG
FG SIG
CONTROL SIG
HEATER DRIVE
IC610 END SENSE
THERMISTER SENSE
SERVO
REEL
DIN CONNECTOR
HEATER
TIMER REC (RESERVE)
CAMERA
EACH SENSOR
VIDEO
AUDIO
SWING SEARCH

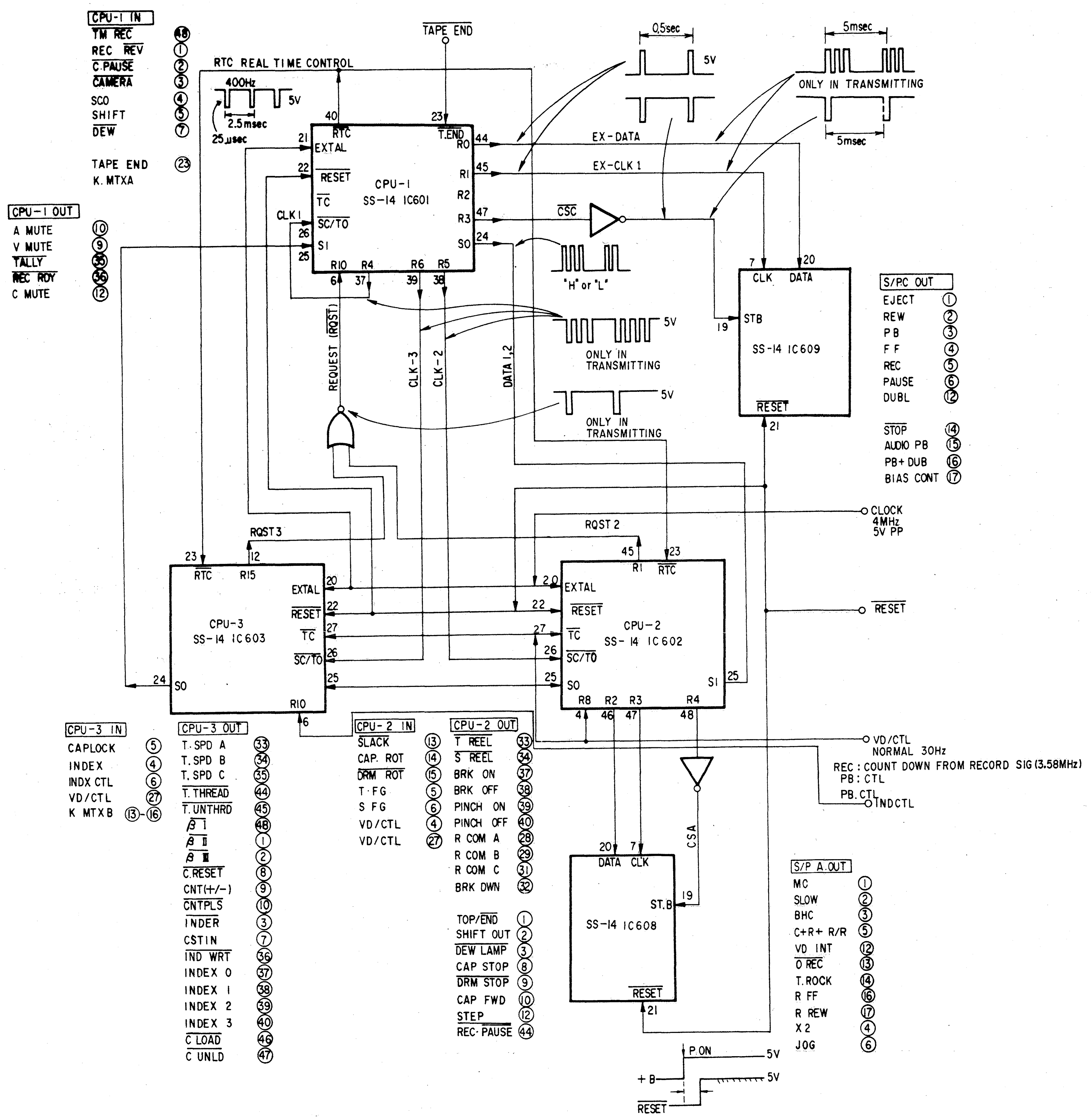
3-7. SYSTEM CONTROL BLOCK DIAGRAM (2)



CAMERA
REC REVIEW
CAMERA PAUSE
TALLY
TIMER
REC READY
TIMER REC
REMOCON
ABNORMALITY DET
END SENS
DEW
REEL
SLACK
S.FG
T.FG
BRK DOWN
LOAD
END LOAD
R. FF
R. REW
T LOCK
REEL COMAND A
REEL COMAND B
REEL COMAND C
S REEL
T REEL
SERVO
REC PAUSE
DRUM STOP
CAP STOP
CAP FWD
F.R SLOW
CAP ROT
DRUM ROT
VD/CTL IND CTL
VD/INT
CUE/REVIEW
RUN SLOW
TAPE SPEED Ø
TAPE SPEED 1
TAPE SPEED 2
IND ER
IND WRT
FUNCTION KEY
EJECT, REW
FF, STOP, PB
PAUSE, REC, DUB
X2, X1, X1/5, X1/10
VDL
FRAME
FWD
RVS
SLIDE SW
CPU1
REMOTE CONT INPUT PROCESS
FUNCTION KEY INPUT
RTC SIGNAL GEN
DATA BUS CONTROL
ABNORMALITY DET
CAMERA
EXPANSION PORT OUTPUT
SS-14
IC601
EXPANSION PORT
IC609
LAMP DRIVE
KEY MTX B
LOADING END
UNLD END
REC PROOF
TAPE END
CASSETTE IN
CASSETTE UP
CASSETTE DOWN
CPU3
TAPE THREADING
TAPE UNTHREADING
β MODE DET
TAPE SPEED CONT
TAPE COUNTER
MECHANICAL SW INPUT
CASSETTE LOADING
CASSETTE UNLOADING
SS-14
IC603
DATA BUS
CPU2
ELECTRICAL CONT
(EACH MOTOR)
MECHANICAL CONT
(BRAKE SOLENOID)
(PINCH SOLENOID)
EXPANSION PORT OUTPUT
SS-14
IC602
VIDEO
JOG (MC)
OVER REC
PB + DUB
CAM CONT
V MUTE
βI SIG
βII SIG
βIII SIG
CUE/REVIEW
TAPE THREADING
TAPE THREADING
TAPE UNTHREADING
CASSETTE LOADING
CASSETTE UNLOADING
COUNTER
COUNTER PLS
UP/DOWN
COUNTER RESET
EXPANSION PORT
IC608
SOLENOID
PINCH
BRAKE
AUDIO
βI SIG
βII SIG
βIII SIG
BIAS CONT
DUB
AUDIO PB
A MUTE
C MUTE

3-8. SYSTEM CONTROL BLOCK DIAGRAM (3)

CPU CONTROL SIGNAL FLOW


CPU-1 IN
TM REC ㊽
REC REV ①
C.PAUSE ②
CAMERA ③
SCO ④
SHIFT ⑤
DEW ⑦
TAPE END ㉓
K.MTXA
CPU-1 OUT
A MUTE ⑩
V MUTE ⑨
TALLY ㉟
REC RDY ㊱
C MUTE ⑫
RTC REAL TIME CONTROL
400Hz
5V
2.5msec
25μsec
TAPE END
CPU-1
SS-14 IC601
RTC
T.END
EXTAL
RESET
TC
SC/TO
SI
SO
R0
R1
R2
R3
R10 R4 R6 R5
CLK1
EX-DATA
EX-CLK 1
CSC
"H" or "L"
0.5sec
5V
5msec
ONLY IN TRANSMITTING
5msec
ONLY IN TRANSMITTING
ONLY IN TRANSMITTING
REQUEST (RQST)
CLK-3
CLK-2
DATA 1,2
CLK DATA
STB
SS-14 IC609
RESET
S/P.C OUT
EJECT ①
REW ②
PB ③
FF ④
REC ⑤
PAUSE ⑥
DUBL ⑫
STOP ⑭
AUDIO PB ⑮
PB+DUB ⑯
BIAS CONT ⑰
CLOCK 4MHz 5V PP
RQST 3
RQST 2
RESET
CPU-3
SS-14 IC603
RTC R15
EXTAL
RESET
TC
SC/TO
SO
R10
CPU-2
SS-14 IC602
R1 RTC
EXTAL
RESET
TC
SC/TO
SO
SI
R8 R2 R3 R4
VD/CTL
NORMAL 30Hz
REC : COUNT DOWN FROM RECORD SIG (3.58MHz)
PB : CTL
PB.CTL
INDCTL
CSA
DATA CLK
ST.B
SS-14 IC608
RESET
P.ON
+B
5V
5V
RESET
≃100msec
CPU-3 IN
CAPLOCK ⑤
INDEX ④
INDX CTL ⑥
VD/CTL ㉗
K MTXB ⑬-⑯
CPU-3 OUT
T.SPD A ㉝
T.SPD B ㉞
T.SPD C ㉟
T.THREAD ㊹
T.UNTHRD ㊺
β I ㊽
β II ①
β III ②
C.RESET ⑧
CNT(+/−) ⑨
CNTPLS ⑩
INDER ③
CSTIN ⑦
IND WRT ㊱
INDEX 0 ㊲
INDEX 1 ㊳
INDEX 2 ㊴
INDEX 3 ㊵
C LOAD ㊻
C UNLD ㊼
CPU-2 IN
SLACK ⑬
CAP. ROT ⑭
DRM ROT ⑮
T·FG ⑤
S FG ⑥
VD/CTL ④
VD/CTL ㉗
CPU-2 OUT
T REEL ㉝
S REEL ㉞
BRK ON ㊲
BRK OFF ㊳
PINCH ON ㊴
PINCH OFF ㊵
R COM A ㉘
R COM B ㉙
R COM C ㉛
BRK DWN ㉜
TOP/END ①
SHIFT OUT ②
DEW LAMP ③
CAP STOP ⑧
DRM STOP ⑨
CAP FWD ⑩
STEP ⑫
REC·PAUSE ㊹
S/P A.OUT
MC ①
SLOW ②
BHC ③
C+R+ R/R ⑤
VD INT ⑫
0 REC ⑬
T.ROCK ⑭
R FF ⑯
R REW ⑰
X2 ④
JOG ⑥

3-9. SYSTEM CONTROL CIRCUIT AND VIDEO CIRCUIT INTERFACE

SIGNAL \ MODE	I/O	Pin No.	STOP	PB	REC	FF	REW	CUE	REV	PB PAUSE	REC PAUSE	THREADING	EJECT	DUB	DUB PAUSE
$\overline{\text{OVER REC}}$	O	IC608 (MB8747) 13 Pin	H	H	H*1	H	H	H	H	H	H	H	H	H	H
PB + DUB	O	IC609 (MB8747) 16 Pin	L	H	L	L	L	H	H	H	*10 L	L	L	H	H
V MUTE *2	O	CPU1 (IC601) 9Pin	L	L*3	L	L	L	L	L	L	L	L	L	L*3	L
$\overline{\beta \text{I}}$	O	CPU3 (IC603) 48 Pin	by speed selector	by recorded tape	by speed selector	by speed selector	by speed selector	holds the previous level	holds the previous level	holds the previous level	by speed selector	by speed selector	by speed selector	by recorded tape	holds the previous level
$\overline{\beta \text{III}}$	O	CPU3 (IC603) 2 Pin	Same as βI mode signal												
$\overline{\text{REC}\cdot\text{PAUSE}}$ *4	O	CPU2 (IC602) 44 Pin	H	H	L*7	H	H	H	H	H	H	H	H	H	H
MC	O	IC608 (MB8747) 1 Pin	L	L	L	L	L	H	H	H	L*11	L	L	L	H

*1 "L" is appear during 12 sec in strong signal recording for splicing
*2 "H" when no CTL period become 0.5 sec, the CTLS are detected during more than 0.5 sec, the level changed
*3 "H" is held during 3 second when in playback mode or in dubbing mode after stop mode
*4 output latched by flip-flop, the clock signal for the flip-flop, is rf sw pulse
*7 "H" is held during 12 CTL in record mode after releasing record pause, since then "L"
*10 "H" during record-review mode and record playback mode
*11 "H" during record-review mode

3-10. SYSTEM CONTROL CIRCUIT AND SWING SEARCH CIRCUIT INTERFACE

SIGNAL *1 \ MODE	I/O	Pin No.	STOP	PB	REC	FF	REW	CUE	REV	PB PAUSE	REC PAUSE	THREADING	EJECT	DUB	DUB PAUSE
CAP FWD	O	CN625-3 CPU2 10 Pin	H*2	H	H	H	L	H	L	H	H	H*2	H*2	H	H
STEP	O	CN625-4 CPU2 12 Pin	L	L	L	L	L	L	L	L	L	L	L	L	L
JOG	O	CN625-6 IC608 (MB8747) 6 Pin	L	L	L	L	L	H	H	H	L*4	L	L	L	H
SLOW	O	CN625-2 IC608 (MB8747) 2 Pin	L	L	L	L	L	L	L	H	H	L	L	L	H
βII + C/R	O	CN625-1	βII mode : H					H	H	βII mode : H					
TAPE SPEED (B) *5	O	CN625-5 CPU3 34 Pin													
BHC		CN625-9 IC608 3 Pin	L	L*6	L	L	L	L	L	L	L	L	L	L	L
VDINT		CN625-10 IC608 12 Pin	L	H	L	L	L	H	H	H	L*3	L	L	H	H
REF5V	O	CN625-11 Through from servo	H	H	H	H	H	H	H	H	H	H	H	H	H

*1 Signal is correspond to connector (refer to Pin No.)
*2 no signal in videola side
*3 "H" when in record review and reverse playback mode
*4 "H" when in record review mode
*5 Same as servo block tape speed
*6 When changing the mode in SWING SEARCH mode, X-1, cue and review become "H"

3-11. SYSTEM CONTROL CIRCUIT AND SERVO CIRCUIT INTERFACE

SIGNAL \ MODE	I/O	Pin No.	STOP	PB	REC	FF	REW	CUE	REV	PB PAUSE	REC PAUSE	LOADING	EJECT	DUB	DUB PAUSE
VD/CTL	I'	CPU2, 3 27 Pin CPU2 4 Pin	——	CTL	VD	CTL	CTL	CTL	CTL	——	TAPE RUNS CTL	——	——	CTL	——
$\overline{\text{DRM ROT}}$	I'	CPU2 15 Pin	H	L	L	L	L	L	L	L	L	H	H	L	L
CAP ROT	I'	CPU2 14 Pin	L	H	H	L	L	H	H	L	L	L	L	H	L
CAP LOCK	I'	CPU3 5 Pin	L	H*1	H	holds the previous level	holds the previous level	L	L			L	L	H*1	
RF SW PLS*2	I'	CPU2 7 Pin	disappear	appear	appear	appear	appear	appear	appear	appear	appear	appear	appear	appear	appear
TAPE SPEED (A) *3	O	CPU3 33 Pin													
TAPE SPEED (B)	O	CPU3 34 Pin													
TAPE SPEED (C)	O	CPU3 35 Pin													
DRM STOP	O	CPU2 9 Pin	H	L	L	L	L	L	L	L	L	H	H	L	L
CAP STOP	O	CPU2 8 Pin	H	L	L	H	H	L	L			H	H	L	
VD INT	O	IC608 (MB8747) 12 Pin	L	H	L	L	L	H	H	H	L*8	L	L	H	H
$\overline{\text{REC}\cdot\overline{\text{PAUSE}}}$*4	O	CPU2 44 Pin	H	H	L*7	H	H	H	H	H	H	H	H	H	H
CUE+REV	O	IC608 (MB8747) 5 Pin	L	L	L	L	L	H	H	L	L	L	L	L	L
CAP FWD	O	CPU2 10 Pin	H*5	H	H	H	L	H	L	*6	*6	H*5	H*5	H	H
INDEX CTL	I	CPU3 6 Pin	——	CTL	VD	CTL	CTL	CTL	CTL	——	——	——	——	CTL	——
$\overline{\text{IND WRT}}$	O	CPU3 36 Pin	H	INDEX REC : L H	INDEX REC : L H	H	H	H	H	H	H	H	H	H	H
$\overline{\text{IND ER}}$	O	CPU3 3 Pin	H	INDEX ERASE : L H	H	H	H	H	H	H	H	H	H	H	H
x2	O	IC608 4 Pin	L	SWING SEARCH X2 : H, L	L	L	L	L	L	L	L	L	L	L	L

*1 "L" during capstan servo unlocked, "H" locked
*2 30Hz, 50% duty ratio pulse
*3 3 bit binary coded tape speed
*4 latched output by flip-flop, clock pulses for the flip-flop are rf sw pulses
*5 no use in this mode
*6 "H" when tape runs forward, "L" when tape runs reverse, holds the previous level in stop mode
*7 "H" while counting 12 CTL after record panse mode, since then "L"
*8 "H" when in record review mode and reverse playback mode

3-12. SYSTEM CONTROL CIRCUIT AND TUNER CIRCUIT INTERFACE

SIGNAL*1 \ MODE	I/O	Pin No.	STOP	PB	REC	FF	REW	CUE	REV	PB PAUSE	REC PAUSE	THREADING	EJECT	DUB	DUB PAUSE
REC·$\overline{\text{PAUSE}}$	O	CN620-5	L	L	H	L	L	L	L	L	L	L	L	L	L
INDEX (3) *2	O	CN620-4 CPU3 40 Pin													
INDEX (2)	O	CN620-3 CPU3 39 Pin													
INDEX (1)	O	CN620-3 CPU3 38 Pin													
INDEX (0)	O	CN620-1 CPU3 37 Pin													

*1 Signal is correspond to connector (refer to Pin No.)
*2 $0_H - 9_H$ (4 bit-binary): Index indication, E_H: "IND" Flash,
F_H: "IND, " 8 " Lamp OFF,
when power is OFF, Tuner block side is no use signal

3-13. SYSTEM CONTROL CIRCUIT AND REEL CIRCUIT INTERFACE

SIGNAL \ MODE	I/O	Pin No.	STOP	PB	REC	FF	REW	CUE	REV	PB PAUSE	REC PAUSE	THREADING	EJECT	DUB	DUB PAUSE
T FG	I	CPU2 5 Pin	——	← *1 →											
S FG	I	CPU2 6 Pin	——	← *1 →											
$\overline{\text{SLACK}}$	I	CPU2 13 Pin	——	——	——	"H" normality "L" abnormality	"H" normality "L" abnormality	——	——	——	——	——	——	——	——
BRK DOWN[*2]	O	CPU2 32 Pin	L	L	L	L	L	L	L	L	L	L	L	L	L
$\overline{\text{T END}}$[*6]	O	CPU1 23 Pin													
T LOCK	O	IC608 (MB8747) 14 Pin	L	L	L	L	L	L	L	L	L	H	H	L	L
R FF	O	IC608 (MB8747) 16 Pin	L	L	L	H	L	L	L	L	L	L	L	L	L
R REW	O	IC608 (MB8747) 17 Pin	L	L	L	L	H	L	L	L	L	L	L	L	L
R COM A	O	CPU2 28 Pin	*3	L	L	L	H	L	H	L*4	L*5	L	L	L*	L*3
R COM B	O	CPU2 29 Pin	*3	L	L	H	H	L	L	L	L	H	H	L	L*3
R COM C	O	CPU2 31 Pin	*3	L	L	L	L	H	H	L	L*5	H	H	L	L*3
$\overline{\text{T REEL}}$	O	CPU2 33 Pin	H	L	L	L	H	L	L	L	L	L	L	L	L
$\overline{\text{S REEL}}$	O	CPU2 34 Pin	H	L	L	H	L	L	L	L	L	L	L	L	L
$\overline{\text{T THREAD}}$	O	CPU3 44 Pin	H	H	H	H	H	H	H	H	H	L	H	H	H

*1 numbers of pulse equal to numbers of reel revolution multiplied 60
*2 changing signal for electrical brake
*3 no use in this mode
*4 "H" when tape runs reverse in SWING SEARCH mode
*5 "H" when in record-review mode
*6 "L" at tape end

3-14. SYSTEM CONTROL CIRCUIT AND AUDIO CIRCUIT INTERFACE

SIGNAL \ MODE	I/O	Pin No.	STOP	PB	REC	FF	REW	CUE	REV	PB PAUSE	REC PAUSE	THREADING	EJECT	DUB	DUB PAUSE
$\overline{\beta\text{I}}$	O	CPU3 48 Pin	by speed selector	by recorded tape	by speed selector	by speed selector	by speed selector	holds the previous level	holds the previous level	holds the previous level	by speed selector	by speed selector	by speed selector	by recorded tape	holds the previous level
$\overline{\beta\text{II}}$	O	CPU3 1 Pin	← Same as βI mode signal →												
$\overline{\beta\text{III}}$	O	CPU3 2 Pin	← Same as βI mode signal →												
AUDIO PB[*2]	O	IC609 (MB8747) 15 Pin	L	H	L	L	L	H	H	H*1	L*10	L	L	L	L
DUB	O	IC609 (MB8747) 12 Pin	L*3	L	L	L	L	L	L	L	L	L	L	H	H
BIAS CONT	O	IC609 (MB8747) 17 Pin	L	L	H*4	L	L	L	L	L	L	L	L	H*5	L
A MUTE[*6]	O	CPU1 10 Pin	H	L*7	H	H	H	H	H	H	H*9	H	H	H	H
C MUTE	O	CPU1 12 Pin	L*8	L*8	L*8	L*8	L*8	L*8	L*8	L*8	L*8	L*8	L*8	L*8	L*8

*1 includes double speed play and SWING SEARCH play
*2 level is changed after 40msec delay
*3 "H" is held during 15msec in stop mode after dubbing, "H" since then "L"
*4 "L" is held during 12 CTL in record mode after record pause mode, since then "H"
*5 "L" is held during 50msec in dubbing mode after stop mode, since then "H"
*6 "H" when no CTL period become 0.5 sec, the CTLs are detected during more than 0.5 sec, the level is changed
*7 "H" is held during 3 sec in playback mode after stop/FF and is held during 0.5 sec, since then "L"
*8 "H" is held during 50 msec after mode changed
*9 "H" is held during 0.5 sec in record mode after record-review mode, since then "L"
*10 "H" when in record review mode and reverse playback mode

3-15. SYSTEM CONTROL CIRCUIT AND TIMER CIRCUIT INTERFACE

SIGNAL *1 \ MODE	I/O	Pin No.	STOP	PB	REC	FF	REW	CUE	REV	PB PAUSE	REC PAUSE	THREADING	EJECT	DUB	DUB PHASE
POWER CONT	I	CN627-6 to CN611-8 (PSU) through P.S	H	H	H	H	H	H	H	H	H	H	H	H	H
$\overline{\text{TIMER REC}}$ *2	I	CN627-2 CPU1 48 Pin	H	L*2	H	H	H	H	H	H	H	H	H	H	H
$\overline{\text{CNT RESET}}$ *3	O	CN627-5 CPU3 8 Pin													
CNT (+/−) *4	O	CN627-4 CPU3 9 Pin													
$\overline{\text{CNT PLS}}$ *5	O	CN627-3 CPU3 10 Pin													
$\overline{\text{REC READY}}$	I/O	CN627-1 CPU1 36 Pin													

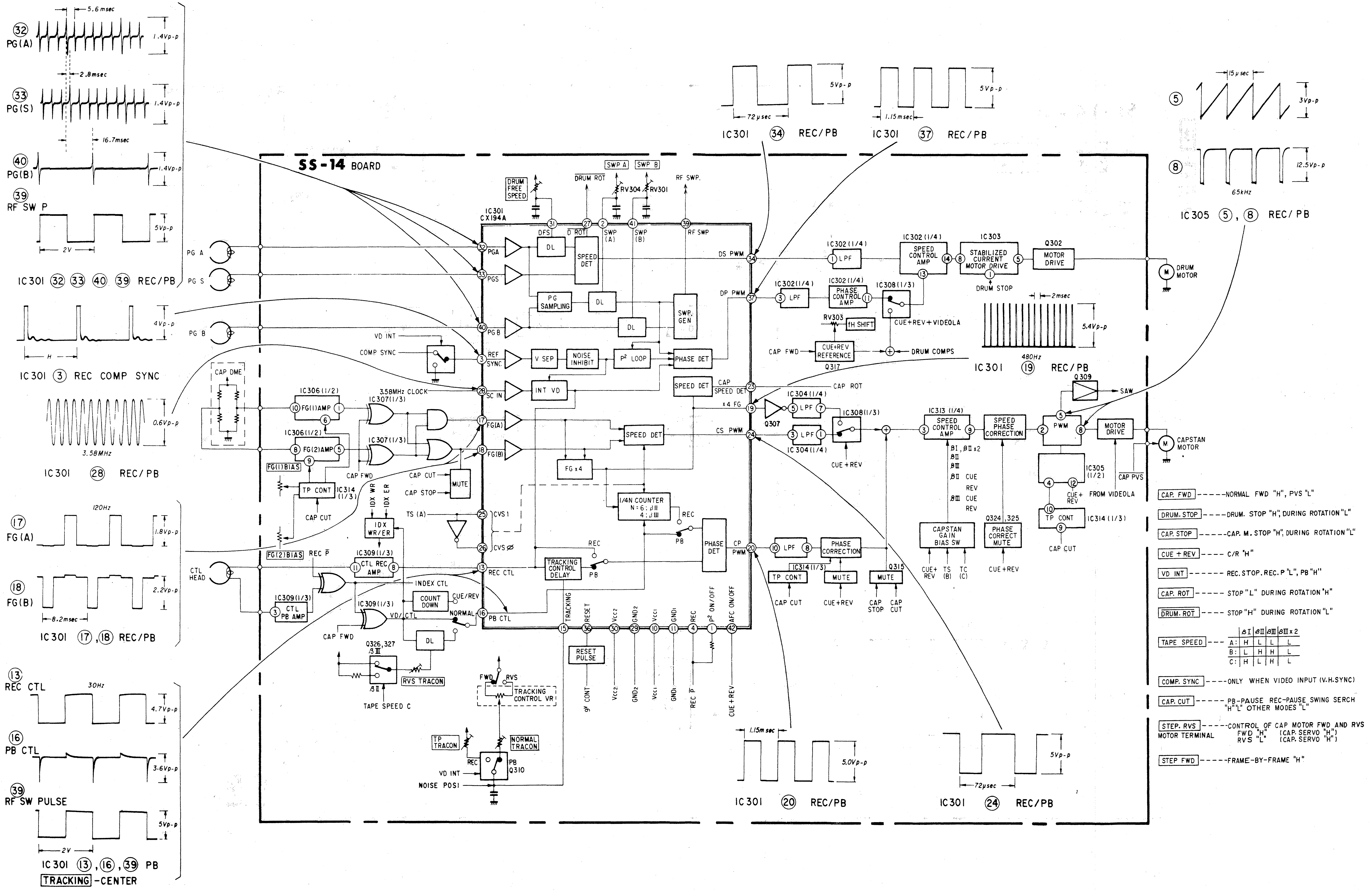
*1 Signal is correspond to connector (refer to Pin No.)
*2 "L" when timer record mode
*3 Counter reset signal Pulse width (L level) approx. 2.5 msec
*4 Counter control signal forward: H reverse: L
*5 Counter clock pulse period: 1 sec

3-16. SYSTEM CONTROL CIRCUIT AND MECHANISM BLOCK INTERFACE

	MODE	Pin No.
SIGNAL	I/O	
BRAKE PLUNGER ON*1	O	CN621-5
BRAKE PLUNGER OFF*1	O	CN621-4
PINCH PLUNGER ON*1	O	CN621-3
PINCH PLUNGER OFF*1	O	CN621-2
THREADING MOTOR (+)*1	O	CN621-6
THREADING MOTOR (−)*1	O	CN621-7
CASSETTE LOADING MOTOR (+)	O	CN621-8
CASSETTE LOADING MOTOR(−)	O	CN621-9
REC PROOF SW (A) *2	I	CN615-4 CPU3 16 Pin
REC PROOF SW (B) *2	O	CN615-3 CPU3 29 Pin
CASSETTE IN SW (A) *2	I	CN616-4 CPU3 13 Pin
CASSETTE IN SW (B) *2	O	CN616-1 CPU3 29 Pin
CASSETTE DWN SW A	I	CN616-2 CPU3 15 Pin
CASSETTE DWN SW B	O	CN616-1 CPU3 29 Pin
CASSETTE UP SW A	I	CN616-3 CPU3 14 Pin
CASSETTE UP SW B	O	CN616-1 CPU3 29 Pin
LOADING END SW (A)*2	I	CN615-4 CPU3 16 Pin
LOADING END SW (B) *2	O	CN615-1 CPU3 32 Pin
UNLOADING END SW (A) *2	I	CN615-4 CPU3 16 Pin
UNLOADING END SW (B)*2	O	CN615-2 CPU3 31 Pin
S SENSOR OUT*4	I	CN604-6 IC610 7 Pin
T SENSOR OUT*5	I	CN604-5 IC610 3 Pin

*1 control signal for brake solenoid, pinch roller solenoid and threading motor
*2 key matrix signal
*3 when detecting dew
*4 osc freq 600kHz at tape end
*5 osc freq 600kHz at tape end

3-17. SERVO BLOCK DIAGRAM



32 PG(A) 5.6msec 1.4Vp-p
33 PG(S) 2.8msec 1.4Vp-p
16.7msec
40 PG(B) 1.4Vp-p
39 RF SW P 2V 5Vp-p
IC301 32 33 40 39 REC/PB
H 4Vp-p
IC301 3 REC COMP SYNC
0.6Vp-p 3.58MHz
IC301 28 REC/PB
120Hz
17 FG(A) 1.8Vp-p
18 FG(B) 2.2Vp-p 8.2msec
IC301 17, 18 REC/PB
13 REC CTL 30Hz 4.7Vp-p
16 PB CTL 3.6Vp-p
39 RF SW PULSE 5Vp-p 2V
IC301 13, 16, 39 PB
TRACKING -CENTER
72μsec 5Vp-p
IC301 34 REC/PB
1.15msec 5Vp-p
IC301 37 REC/PB
15μsec 3Vp-p
5
8 12.5Vp-p 65kHz
IC305 5, 8 REC/PB
SS-14 BOARD
PG A
PG S
PG B
CAP DME
CTL HEAD
DRUM FREE SPEED
DRUM ROT
SWP A
SWP B
RV304
RV301
RF SWP.
IC301 CX194A
DFS
D ROT
SWP (A)
SWP (B)
RF SWP
PGA
PGS
PG B
DL
SPEED DET
PG SAMPLING
SWP. GEN
VD INT
COMP SYNC
REF SYNC
V SEP
NOISE INHIBIT
P² LOOP
PHASE DET
SC IN
INT VD
3.58MHz CLOCK
IC306(1/2) FG(1)AMP
IC306(1/2) FG(2)AMP
IC307(1/3)
FG(A)
FG(B)
FG(1)BIAS
FG(2)BIAS
TP CONT IC314 (1/3)
CAP FWD
CAP CUT
CAP STOP
MUTE
IDX WR
IDX ER
IDX WR/ER
TS (A)
CVS 1
CVS ⌀
FG x4
1/4N COUNTER N=6: βII 4: βIII
REC
PB
TRACKING CONTROL DELAY
REC P̄
IC309(1/3) CTL REC AMP
REC CTL
INDEX CTL
COUNT DOWN
CUE/REV
IC309(1/3) CTL PB AMP
IC309(1/3)
VD/CTL
NORMAL
PB CTL
Q326,327 βIII
βII
RVS TRACON
TAPE SPEED C
FWD RVS
TRACKING CONTROL VR
TP TRACON
NORMAL TRACON
VD INT
Q310
NOISE POSI
TRACKING
RESET
RESET PULSE
Vcc2
GND2
Vcc1
GND1
P² ON/OFF
AFC ON/OFF
9V CONT
CUE+REV
DS PWM
DP PWM
CAP SPEED DET
x4 FG
CS PWM
CP PWM
IC302(1/4) LPF
IC302(1/4) SPEED CONTROL AMP
IC303 STABILIZED CURRENT MOTOR DRIVE
DRUM STOP
Q302 MOTOR DRIVE
DRUM MOTOR
IC302(1/4) PHASE CONTROL AMP
IC308(1/3)
CUE+REV+VIDEOLA
RV303
fH SHIFT
CUE+REV REFERENCE
Q317
DRUM COMPS
2msec 5.4Vp-p 480Hz
IC301 19 REC/PB
CAP ROT
Q307
IC304(1/4) LPF
CUE+REV
IC313 (1/4) SPEED CONTROL AMP
βI, βII x2
βII
βIII
βII CUE REV
βIII CUE REV
CAPSTAN GAIN BIAS SW
CUE+ REV
TS (B)
TC (C)
SPEED PHASE CORRECTION
Q324, 325 PHASE CORRECT MUTE
Q309
SAW
PWM
MOTOR DRIVE
CAPSTAN MOTOR
IC305 (1/2)
CUE+ REV
FROM VIDEOLA
CAP PVS
TP CONT IC314 (1/3)
CAP CUT
LPF
PHASE CORRECTION
IC314(1/3) TP CONT
MUTE
Q315 MUTE
CAP STOP CAP CUT
1.15msec 5.0Vp-p
IC301 20 REC/PB
72μsec 5Vp-p
IC301 24 REC/PB

CAP. FWD -----NORMAL FWD "H", PVS "L"

DRUM. STOP ----DRUM. STOP "H", DURING ROTATION "L"

CAP. STOP -----CAP. M. STOP "H", DURING ROTATION "L"

CUE + REV ---- C/R "H"

VD INT ------ REC. STOP. REC. P "L", PB "H"

CAP. ROT ----- STOP "L" DURING ROTATION "H"

DRUM. ROT ---- STOP "H" DURING ROTATION "L"

TAPE SPEED ---

	βI	βII	βIII	βIII x 2
A:	H	L	L	L
B:	L	H	H	L
C:	H	L	H	L

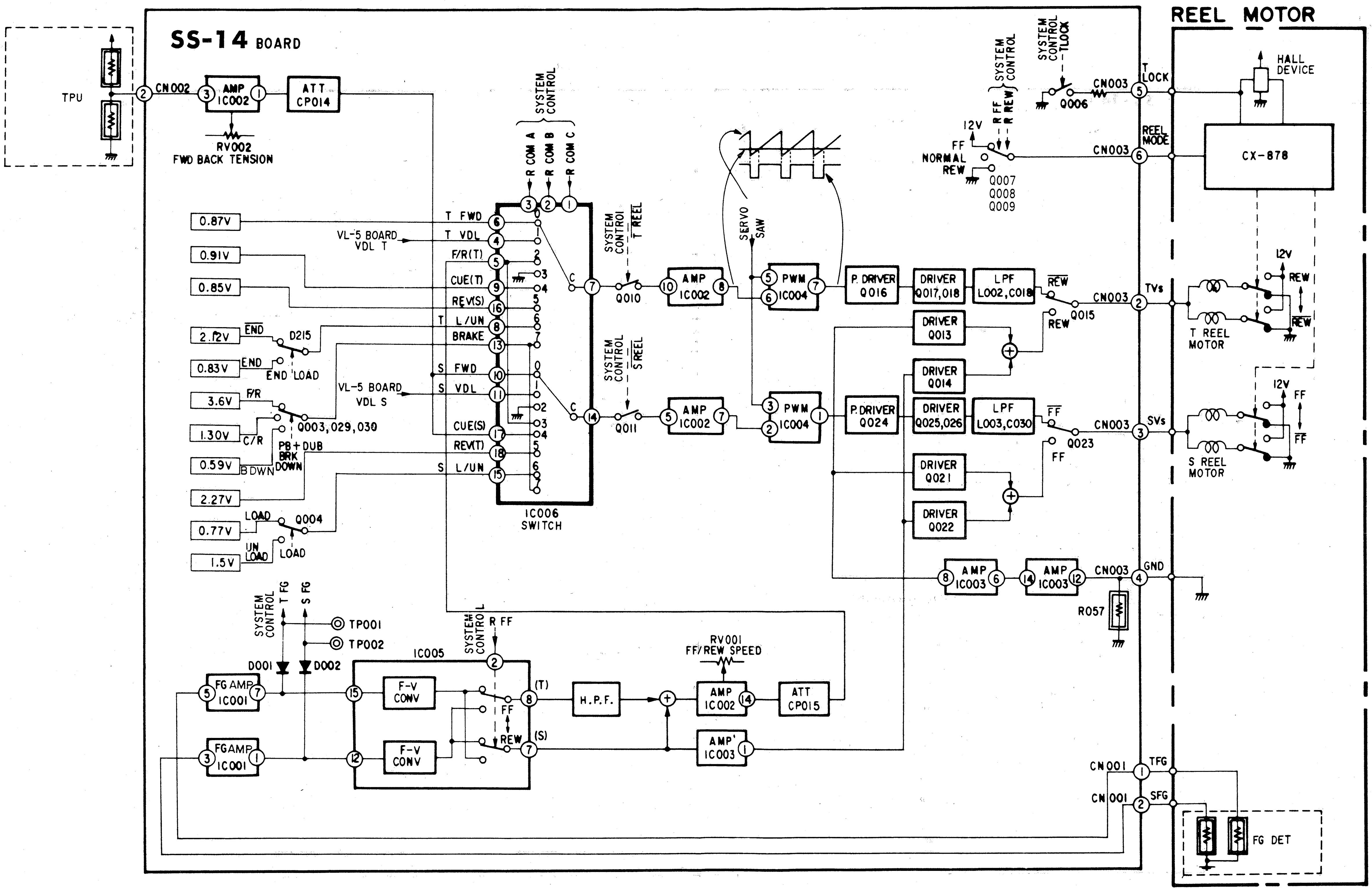
COMP. SYNC ----ONLY WHEN VIDEO INPUT (V.H.SYNC)

CAP. CUT ----- PB-PAUSE REC-PAUSE SWING SERCH "H" "L" OTHER MODES "L"

STEP. RVS -----CONTROL OF CAP MOTOR FWD AND RVS
MOTOR TERMINAL FWD "H" (CAP. SERVO "H")
RVS "L" (CAP. SERVO "H")

STEP FWD -----FRAME-BY-FRAME "H"

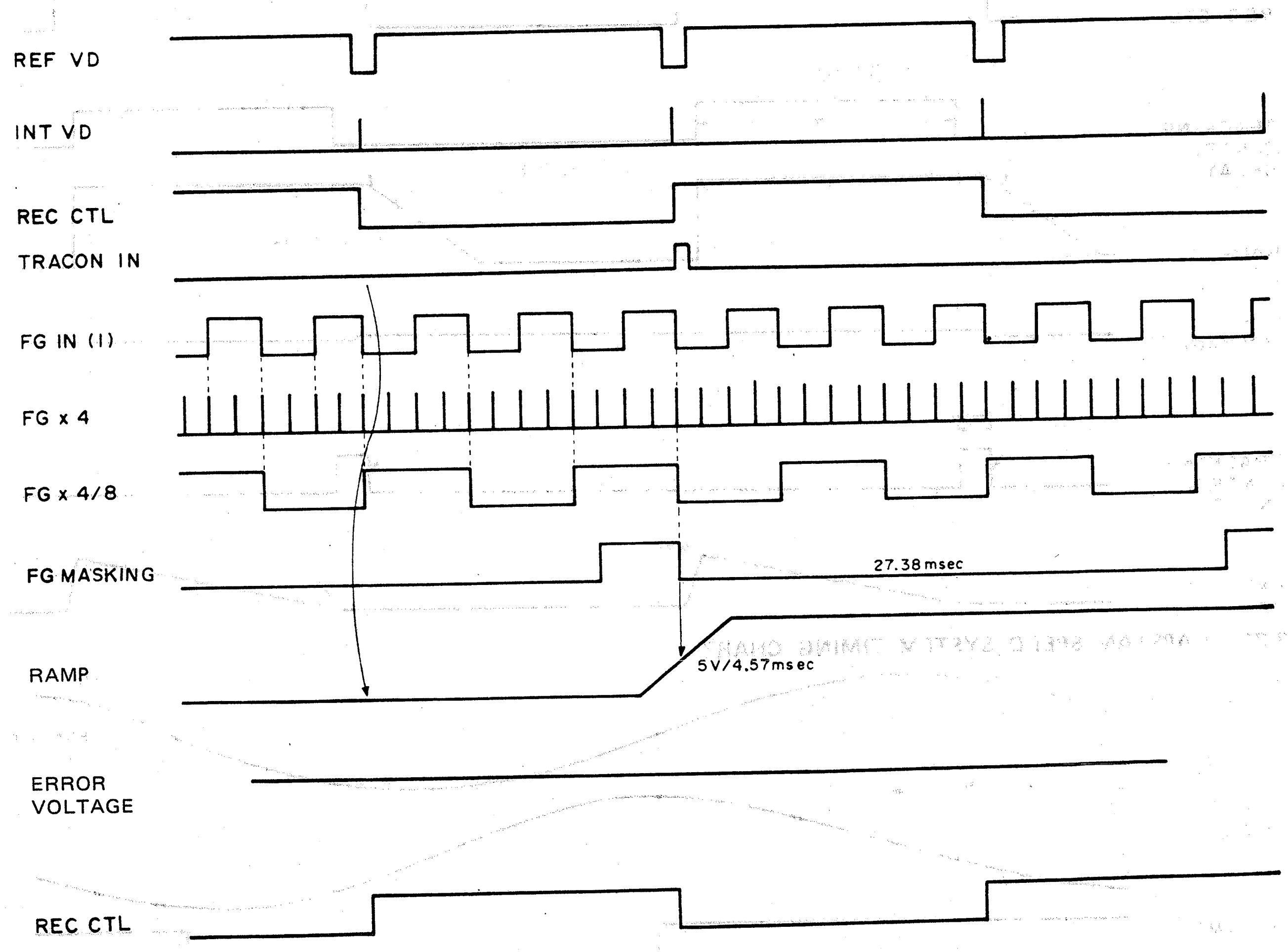
3-18. REEL SERVO BLOCK DIAGRAM


SS-14 BOARD
REEL MOTOR
TPU
CN002
AMP IC002
ATT CP014
RV002 FWD BACK TENSION
SYSTEM CONTROL
R COM A
R COM B
R COM C
0.87V
0.91V
0.85V
2.12V
0.83V
3.6V
1.30V
0.59V
2.27V
0.77V
1.5V
END
D215
END LOAD
F/R
C/R
Q003,029,030
PB+DUB
BRK DOWN
BDWN
LOAD
Q004
UN LOAD
VL-5 BOARD VDL T
VL-5 BOARD VDL S
T FWD
T VDL
F/R(T)
CUE(T)
REV(S)
T L/UN
BRAKE
S FWD
S VDL
CUE(S)
REV(T)
S L/UN
IC006 SWITCH
SYSTEM CONTROL T REEL
SYSTEM CONTROL S REEL
Q010
Q011
AMP IC002
SERVO SAW
PWM IC004
P. DRIVER Q016
P. DRIVER Q024
DRIVER Q017,018
DRIVER Q013
DRIVER Q014
DRIVER Q025,026
DRIVER Q021
DRIVER Q022
LPF L002,C018
LPF L003,C030
REW
Q015
FF
Q023
AMP IC003
R057
SYSTEM CONTROL T LOCK
SYSTEM CONTROL R FF R REW
12V
FF NORMAL REW
Q006
Q007 Q008 Q009
CN003
T LOCK
REEL MODE
TVs
SVs
GND
HALL DEVICE
CX-878
T REEL MOTOR
S REEL MOTOR
SYSTEM CONTROL T FG S FG
TP001
TP002
D001
D002
FG AMP IC001
IC005
F-V CONV
SYSTEM CONTROL R FF
(T)
(S)
H.P.F.
RV001 FF/REW SPEED
AMP IC002
ATT CP015
AMP' IC003
CN001
TFG
SFG
FG DET

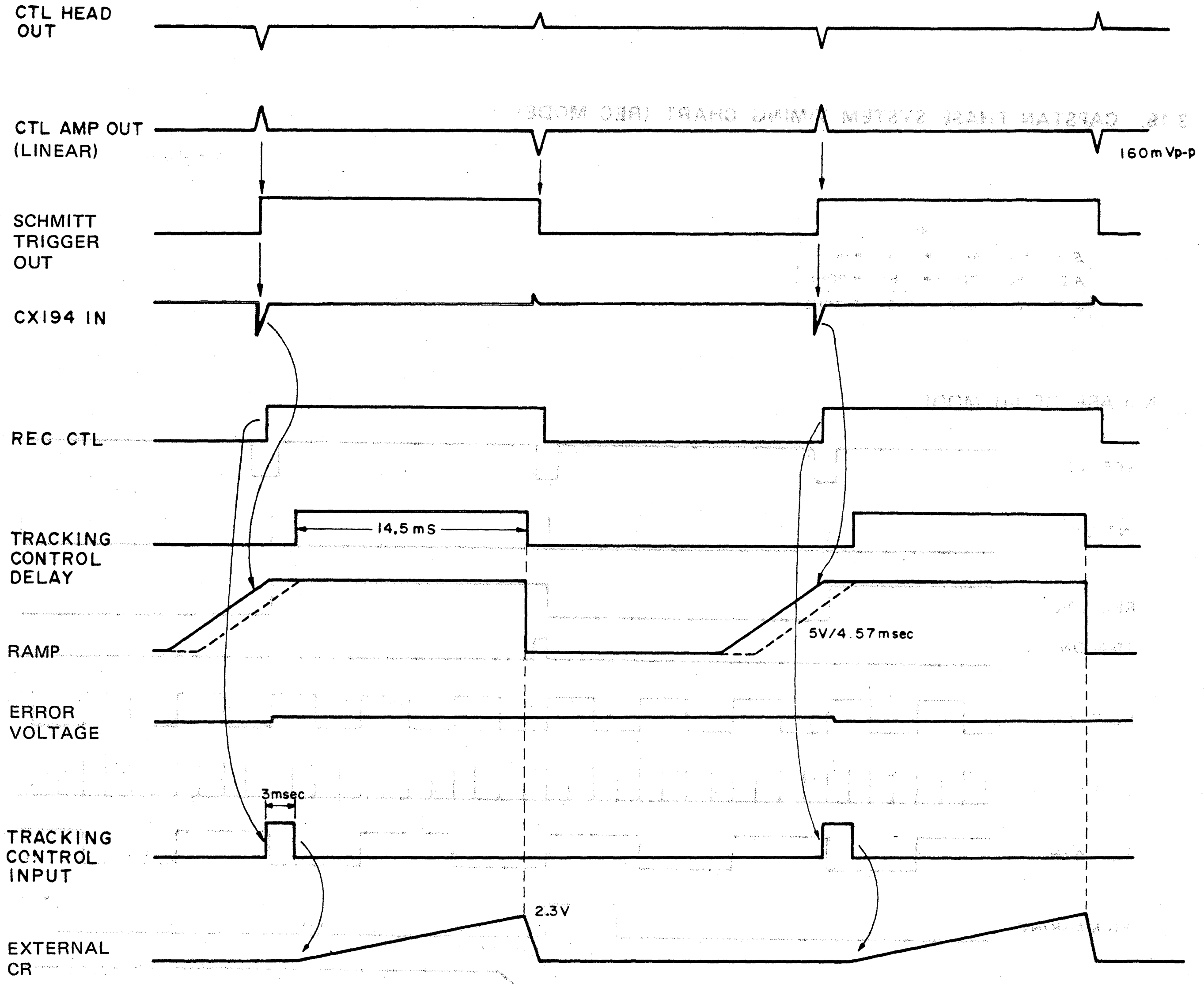
3-19. CAPSTAN PHASE SYSTEM TIMING CHART (REC MODE)

		4FG
βI	360	1440 → 1/16 → 90Hz
βII	180	720 → 1/8 → 90Hz
βIII	120	480 → 1/8 → 60Hz

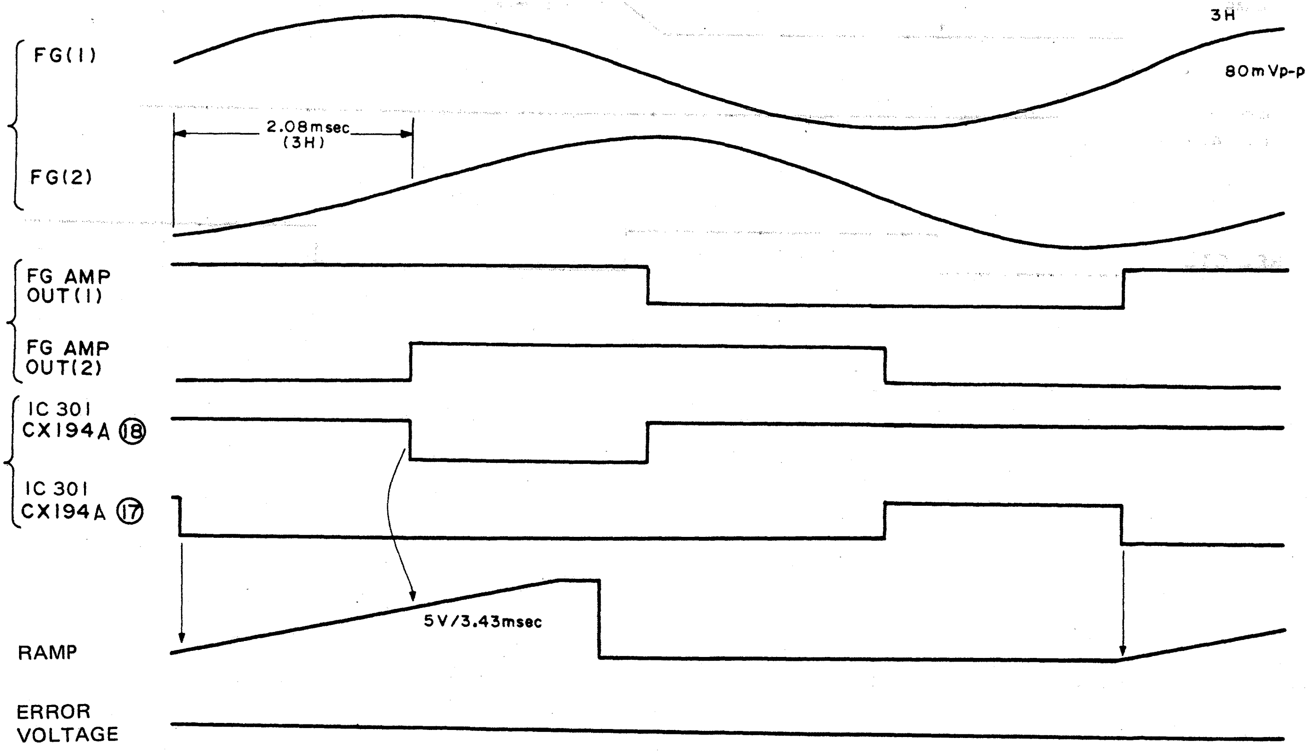
IN CASE OF βII MODE


REF VD
INT VD
REC CTL
TRACON IN
FG IN (1)
FG x 4
FG x 4/8
FG MASKING
27.38 msec
RAMP
5V/4.57msec
ERROR VOLTAGE
REC CTL

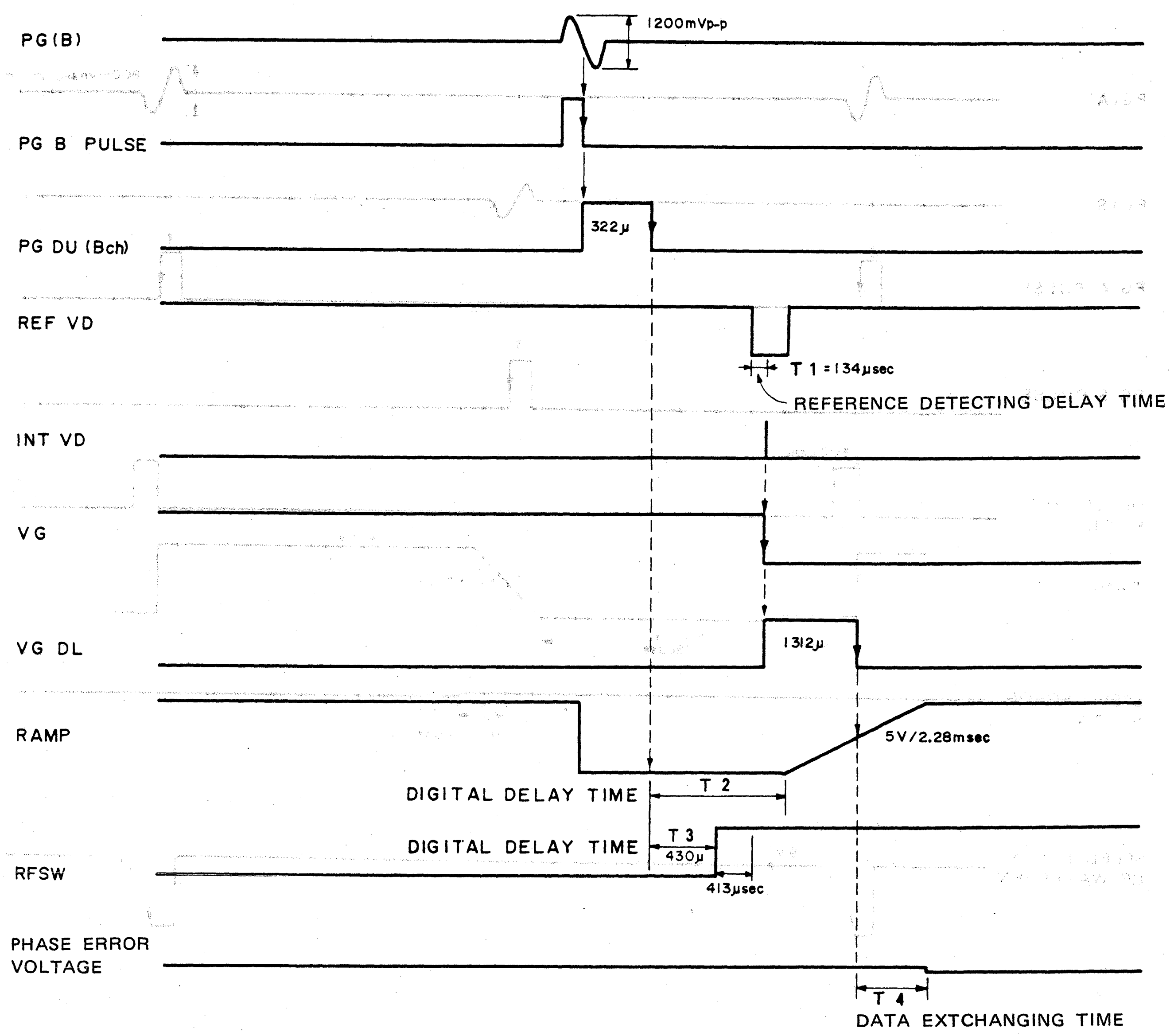
3-20. CAPSTAN PHASE SYSTEM TIMING CHART (PB MODE)


CTL HEAD OUT
CTL AMP OUT (LINEAR)
160mVp-p
SCHMITT TRIGGER OUT
CX194 IN
REC CTL
TRACKING CONTROL DELAY
14.5mS
RAMP
5V/4.57msec
ERROR VOLTAGE
3msec
TRACKING CONTROL INPUT
2.3V
EXTERNAL CR

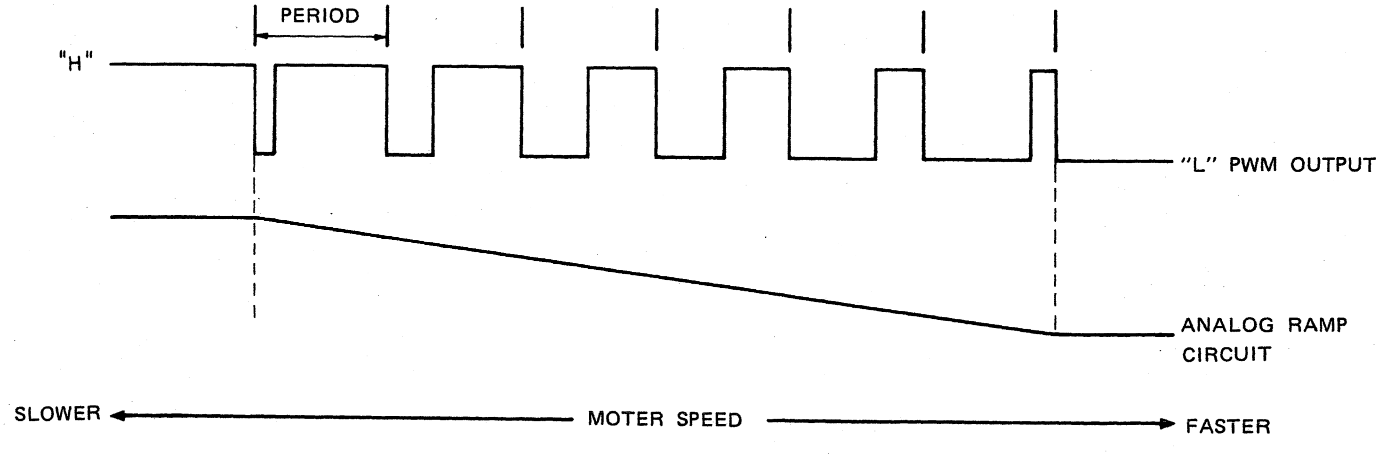
3-21. CAPSTAN SPEED SYSTEM TIMING CHART


3H
FG(1)
80mVp-p
2.08msec (3H)
FG(2)
FG AMP OUT(1)
FG AMP OUT(2)
IC 301 CX194A ⑱
IC 301 CX194A ⑰
5V/3.43msec
RAMP
ERROR VOLTAGE

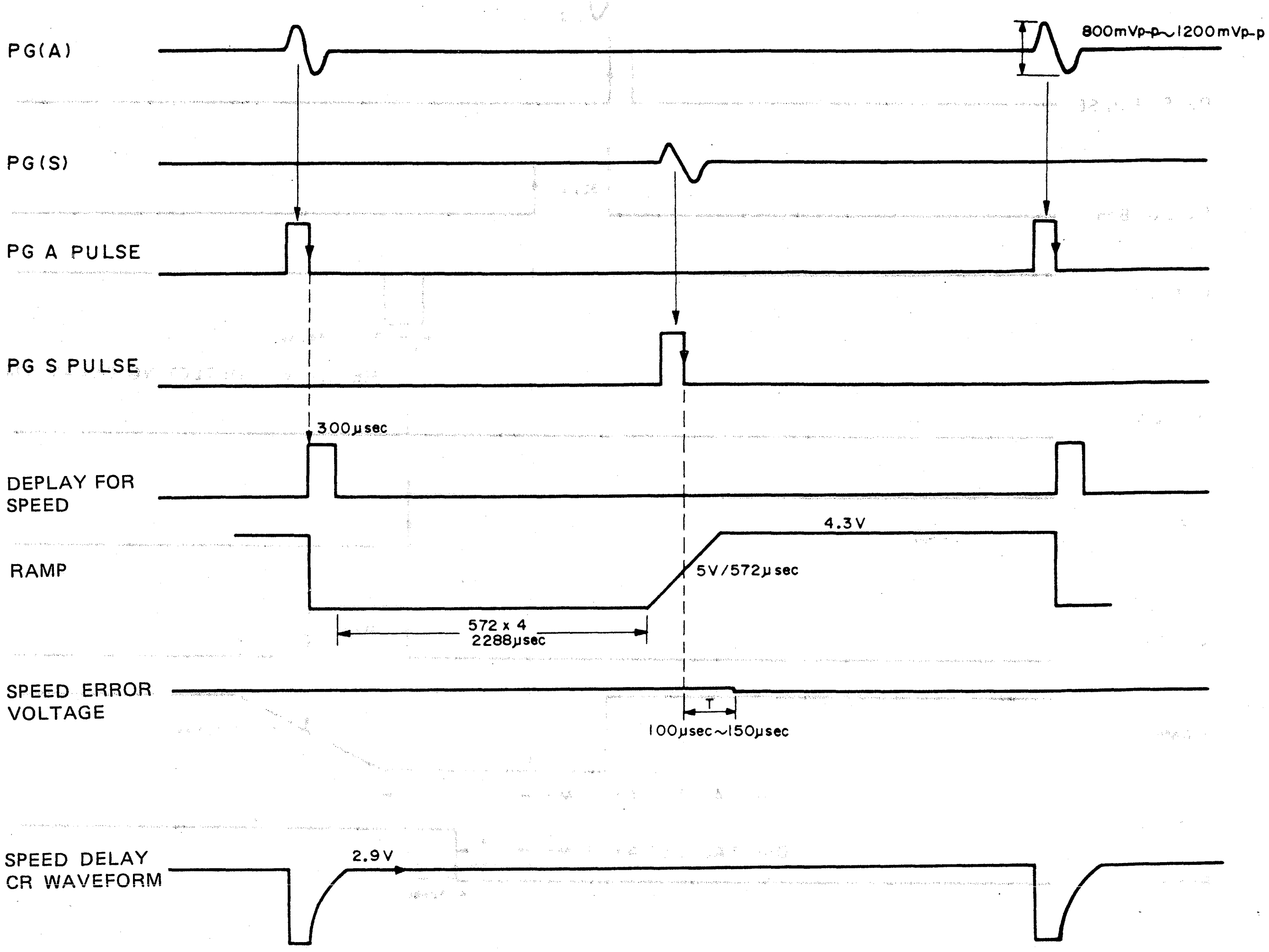
3-22. DRUM PHASE SYSTEM TIMING CHART


PG (B)
1200mVp-p
PG B PULSE
PG DU (Bch)
322μ
REF VD
T 1 = 134μsec
REFERENCE DETECTING DELAY TIME
INT VD
VG
VG DL
1312μ
RAMP
5V/2.28msec
DIGITAL DELAY TIME
T 2
DIGITAL DELAY TIME
T 3
430μ
RFSW
413μsec
PHASE ERROR
VOLTAGE
T 4
DATA EXTCHANGING TIME

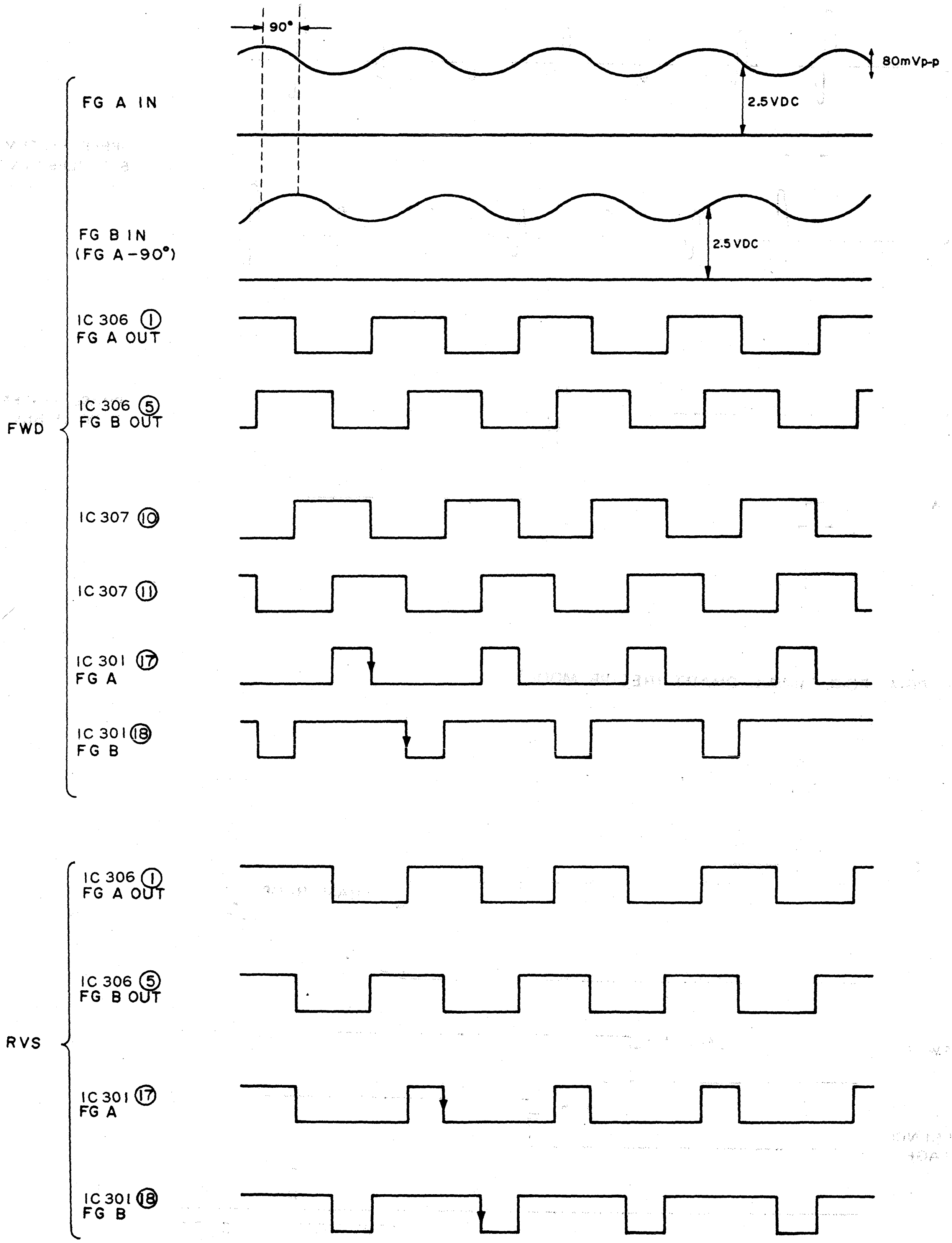
3-23. INSTRUMENTATION COUNTER TIMING CHART


PWM
PERIOD
"H"
"L" PWM OUTPUT
ANALOG RAMP
CIRCUIT
SLOWER
MOTER SPEED
FASTER

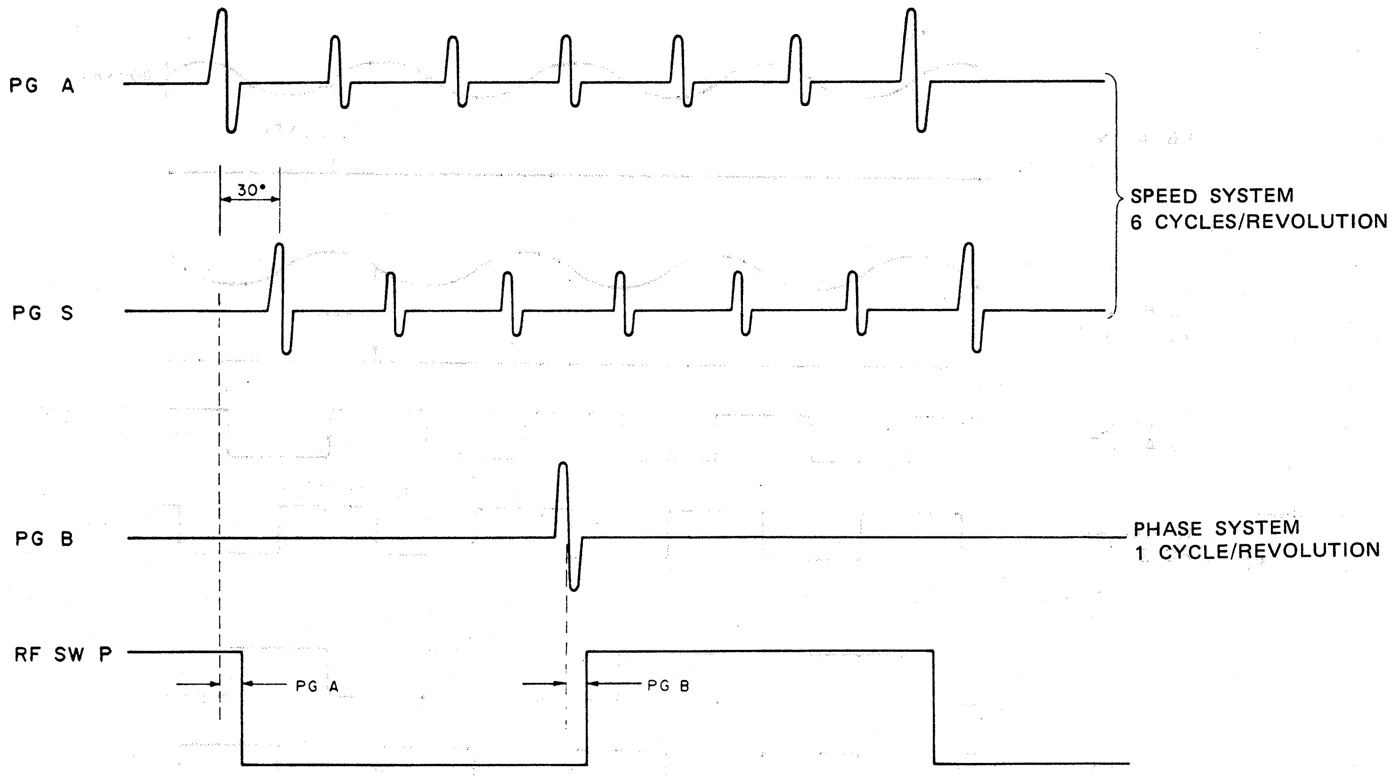
3-24. DRUM SPEED PHASE SYSTEM TIMING CHART


PG(A)
800mVp-p~1200mVp-p
PG(S)
PG A PULSE
PG S PULSE
300μsec
DEPLAY FOR SPEED
RAMP
4.3V
5V/572μsec
572 x 4
2288μsec
SPEED ERROR VOLTAGE
T
100μsec~150μsec
SPEED DELAY CR WAVEFORM
2.9V

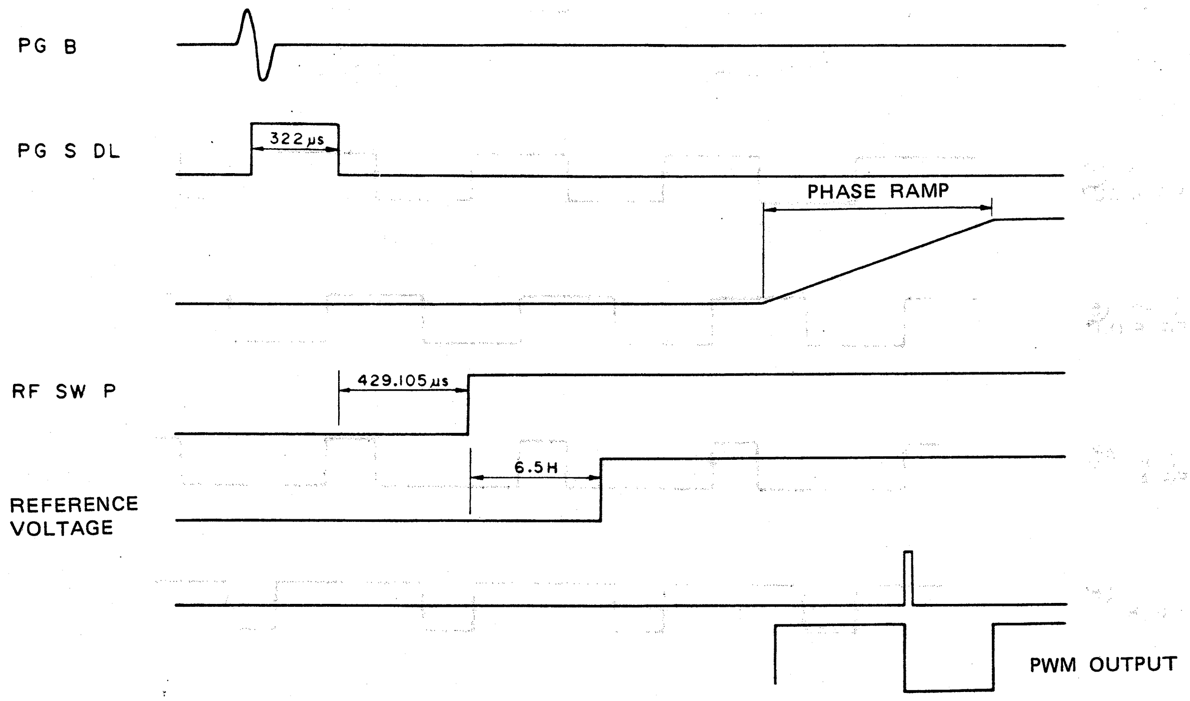
3-25. FG CIRCUIT TIMING CHART


90°
80mVp-p
2.5VDC
FG A IN
FG B IN
(FG A−90°)
2.5 VDC
IC 306 ①
FG A OUT
IC 306 ⑤
FG B OUT
FWD
IC 307 ⑩
IC 307 ⑪
IC 301 ⑰
FG A
IC 301 ⑱
FG B
IC 306 ①
FG A OUT
IC 306 ⑤
FG B OUT
RVS
IC 301 ⑰
FG A
IC 301 ⑱
FG B

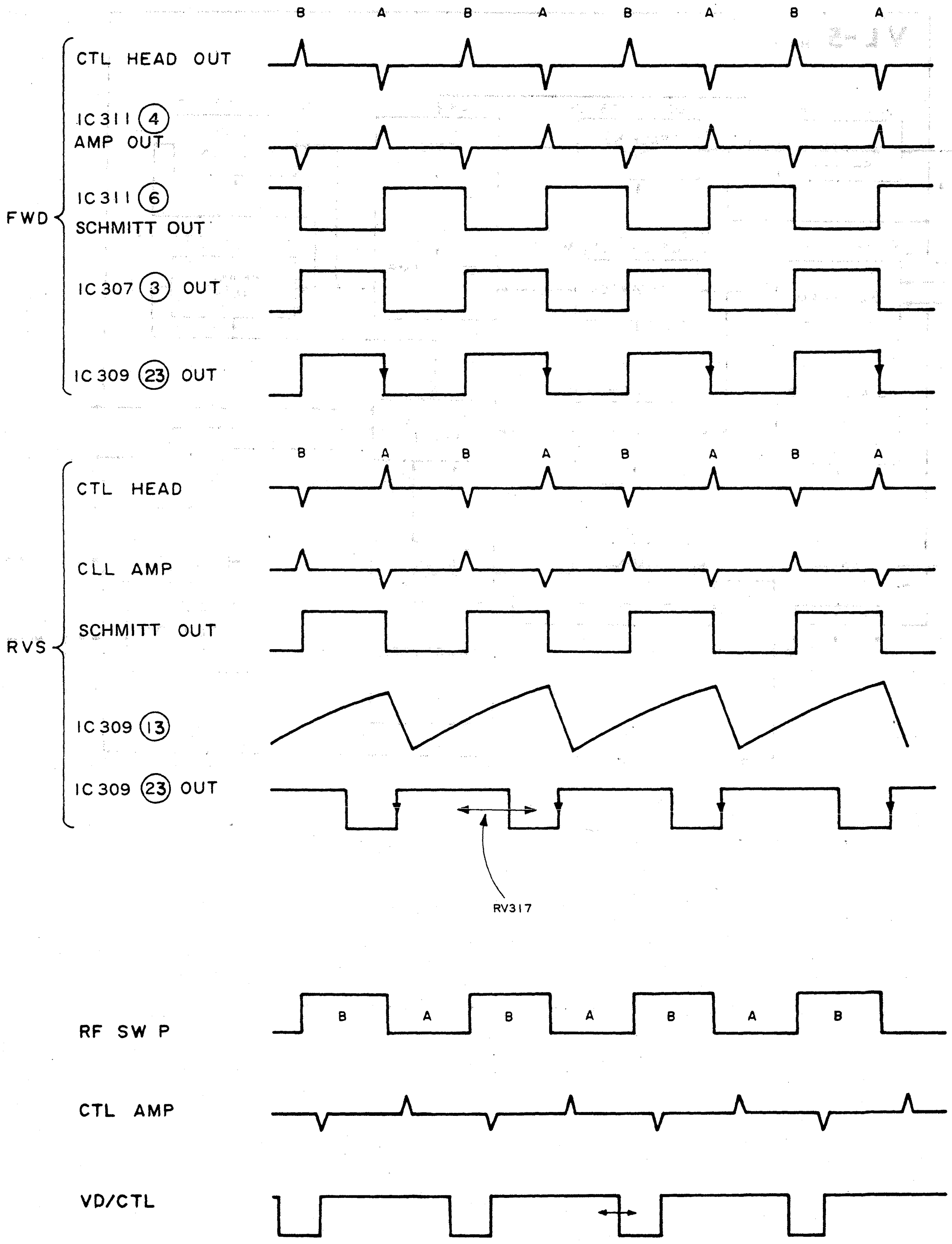
3-26. PG-A, PG-B, PG-S TIMING CHART


PG A
30°
PG S
SPEED SYSTEM
6 CYCLES/REVOLUTION
PG B
PHASE SYSTEM
1 CYCLE/REVOLUTION
RF SW P
PG A
PG B

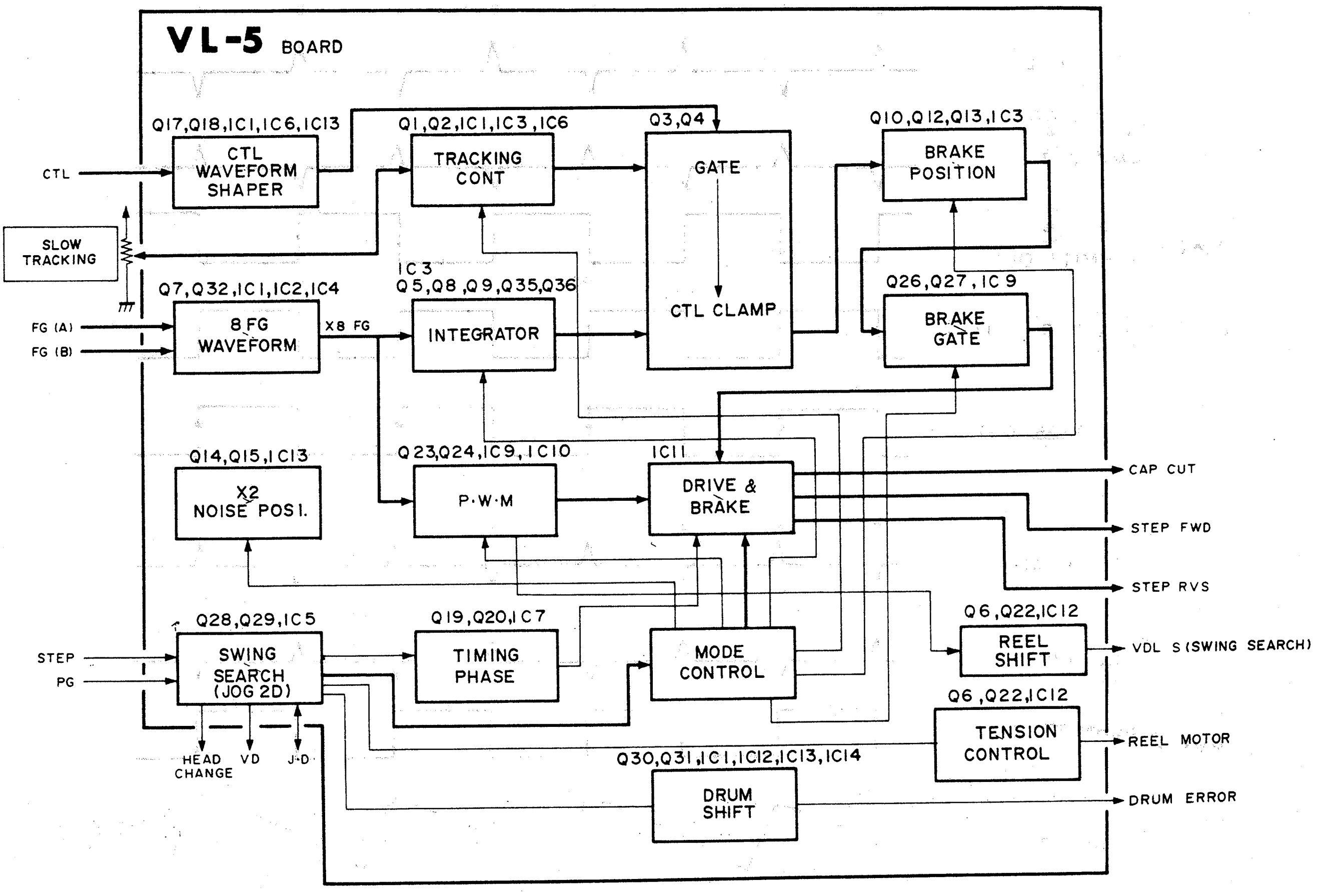
3-27. PG-A, PG-S TIMING CHART (REC/PB MODE)


PG B
PG S DL
322μs
PHASE RAMP
RF SW P
429.105μs
6.5H
REFERENCE
VOLTAGE
PWM OUTPUT

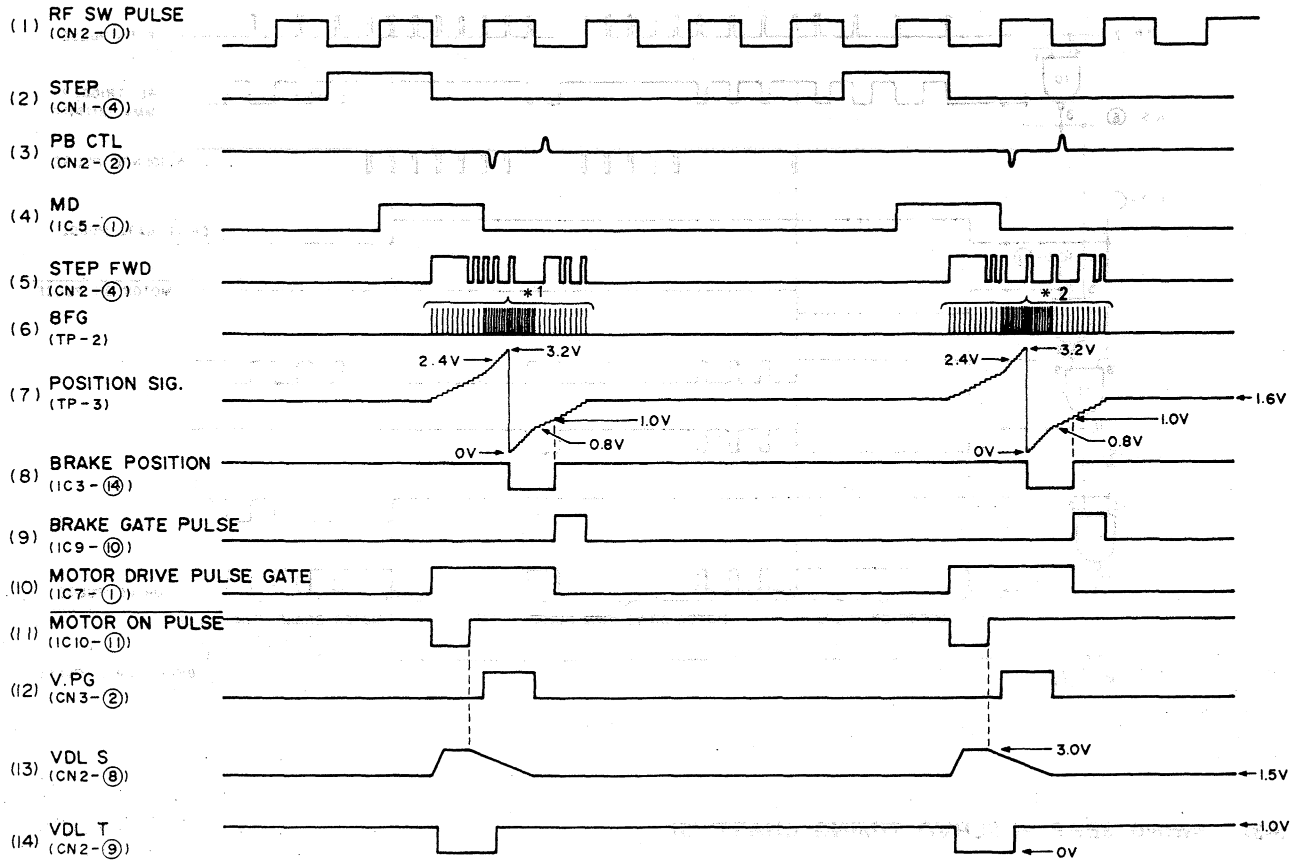
3-28. CTL CIRCUIT TIMING CHART


B
A
B
A
B
A
B
A
FWD
CTL HEAD OUT
IC311 ④ AMP OUT
IC311 ⑥ SCHMITT OUT
IC307 ③ OUT
IC309 ㉓ OUT
RVS
CTL HEAD
CLL AMP
SCHMITT OUT
IC309 ⑬
IC309 ㉓ OUT
RV317
RF SW P
CTL AMP
VD/CTL

3-29. SWING SEARCH SERVO BLOCK DIAGRAM


VL-5 BOARD
CTL
SLOW TRACKING
FG (A)
FG (B)
Q17,Q18,IC1,IC6,IC13
CTL WAVEFORM SHAPER
Q1,Q2,IC1,IC3,IC6
TRACKING CONT
Q3,Q4
GATE
CTL CLAMP
Q10,Q12,Q13,IC3
BRAKE POSITION
Q26,Q27,IC9
BRAKE GATE
Q7,Q32,IC1,IC2,IC4
8 FG WAVEFORM
X8 FG
IC3 Q5,Q8,Q9,Q35,Q36
INTEGRATOR
Q14,Q15,IC13
X2 NOISE POSI.
Q23,Q24,IC9,IC10
P·W·M
IC11
DRIVE & BRAKE
CAP CUT
STEP FWD
STEP RVS
STEP
PG
Q28,Q29,IC5
SWING SEARCH (JOG 2D)
Q19,Q20,IC7
TIMING PHASE
MODE CONTROL
Q6,Q22,IC12
REEL SHIFT
VDL S (SWING SEARCH)
Q6,Q22,IC12
TENSION CONTROL
REEL MOTOR
Q30,Q31,IC1,IC12,IC13,IC14
DRUM SHIFT
DRUM ERROR
HEAD CHANGE
VD
J-D

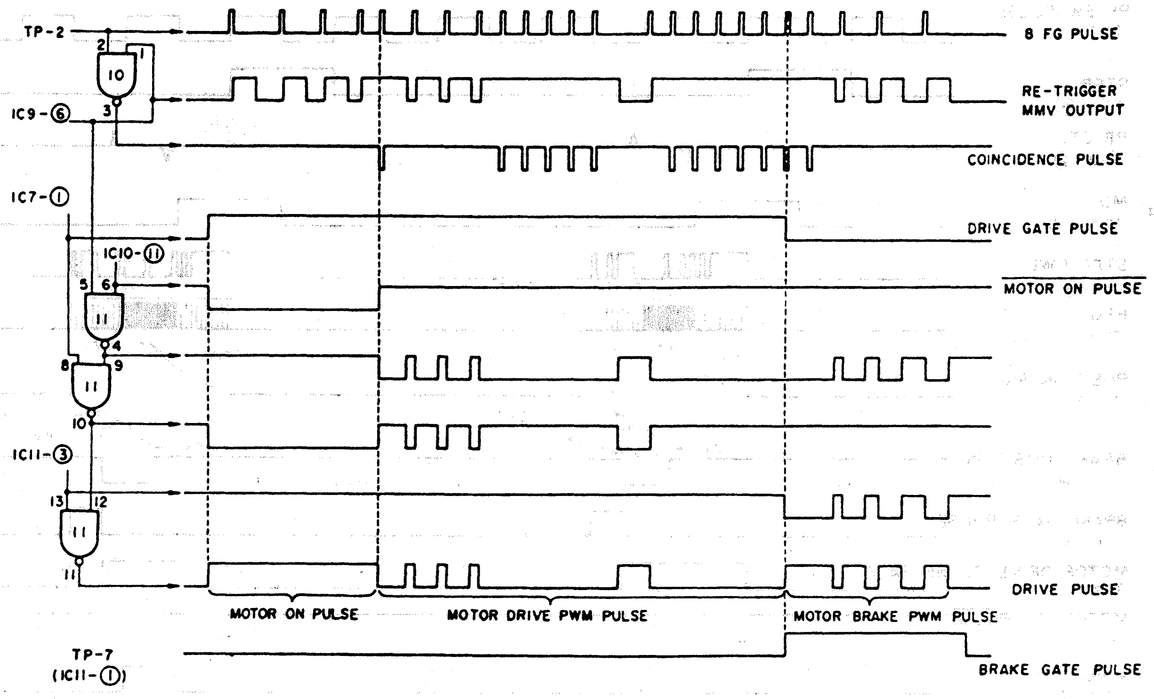
3-30. SWING SEARCH SERVO TIMING CHART (1)


(1) RF SW PULSE (CN2-①)
(2) STEP (CN1-④)
(3) PB CTL (CN2-②)
(4) MD (IC5-①)
(5) STEP FWD (CN2-④)
(6) 8FG (TP-2)
(7) POSITION SIG. (TP-3)
(8) BRAKE POSITION (IC3-⑭)
(9) BRAKE GATE PULSE (IC9-⑩)
(10) MOTOR DRIVE PULSE GATE (IC7-①)
(11) MOTOR ON PULSE (IC10-⑪)
(12) V.PG (CN3-②)
(13) VDL S (CN2-⑧)
(14) VDL T (CN2-⑨)
*1
*2
2.4V
3.2V
1.0V
0.8V
0V
1.6V
3.0V
1.5V
1.0V
0V

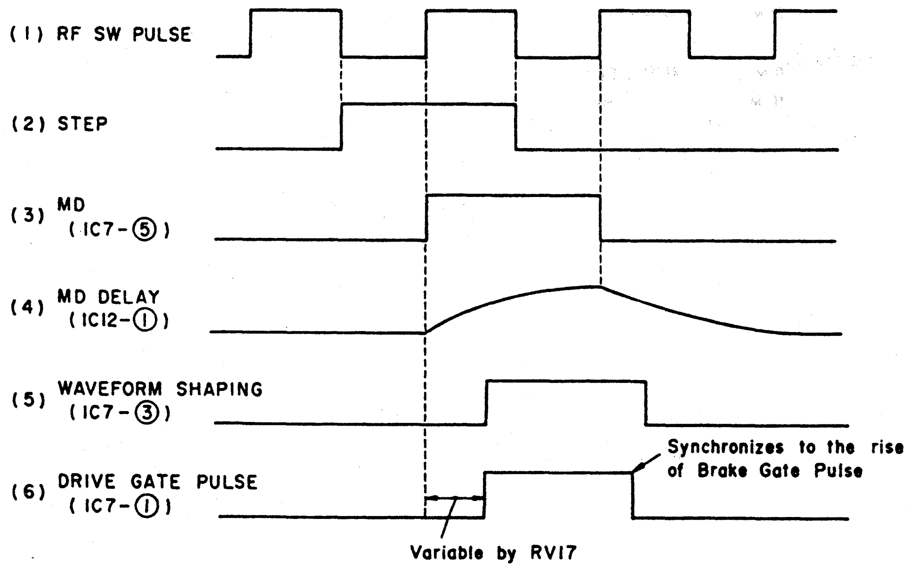
*1 : β II MODE — 48 PULSES
β III MODE — 32 PULSES

*2 : β II MODE — 48 PULSES
β III MODE — 32 PULSES

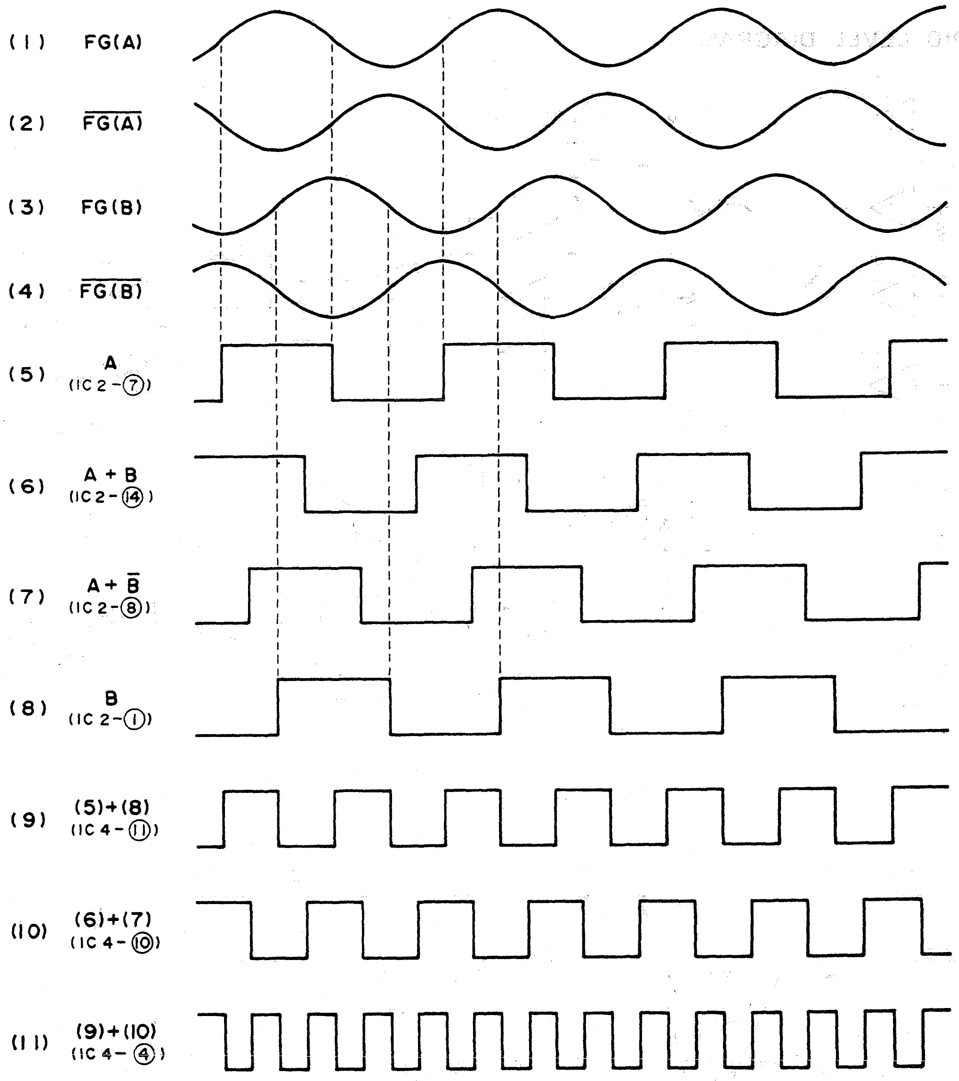
3-31. SWING SEARCH SERVO TIMING CHART (2)


TP-2
IC9-⑥
IC7-①
IC10-⑪
IC11-③
TP-7
(IC11-①)
2
1
10
3
5
6
11
4
8
9
10
13
12
11
8 FG PULSE
RE-TRIGGER
MMV OUTPUT
COINCIDENCE PULSE
DRIVE GATE PULSE
MOTOR ON PULSE
DRIVE PULSE
MOTOR ON PULSE
MOTOR DRIVE PWM PULSE
MOTOR BRAKE PWM PULSE
BRAKE GATE PULSE

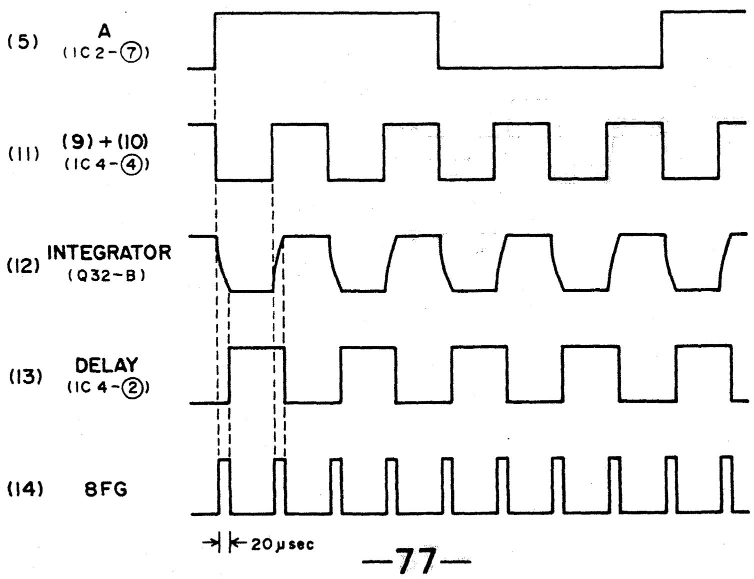
3-32. SWING SEARCH SERVO TIMING CHART (3)


(1) RF SW PULSE
(2) STEP
(3) MD
(IC7-⑤)
(4) MD DELAY
(IC12-①)
(5) WAVEFORM SHAPING
(IC7-③)
(6) DRIVE GATE PULSE
(IC7-①)
Synchronizes to the rise
of Brake Gate Pulse
Variable by RV17

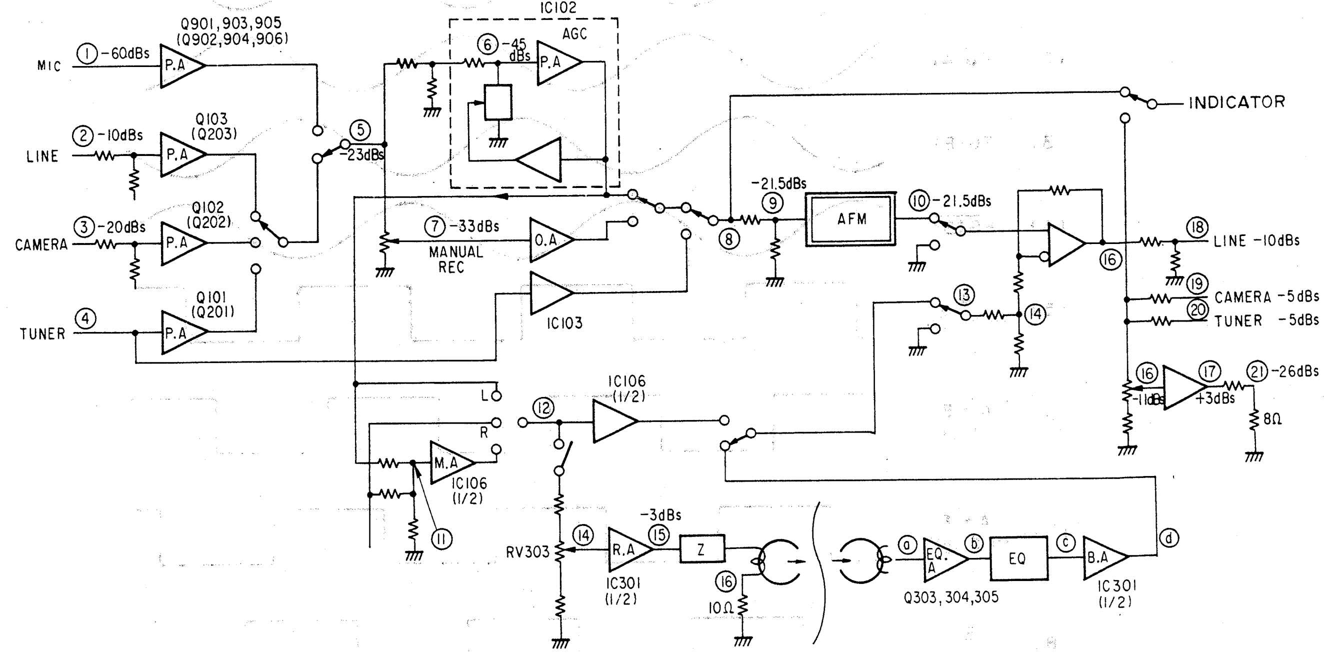
3-33. 8FG SIGNAL GENERATOR TIMING CHART (1)

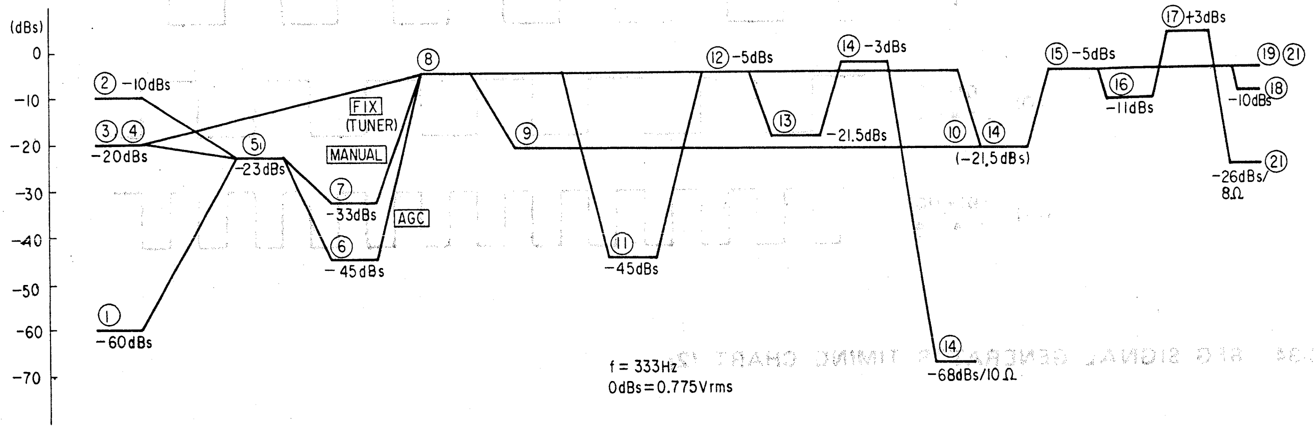

(1) FG(A)
(2) $\overline{FG(A)}$
(3) FG(B)
(4) $\overline{FG(B)}$
(5) A (IC2-⑦)
(6) A + B (IC2-⑭)
(7) A + $\bar{B}$ (IC2-⑧)
(8) B (IC2-①)
(9) (5)+(8) (IC4-⑪)
(10) (6)+(7) (IC4-⑩)
(11) (9)+(10) (IC4-④)

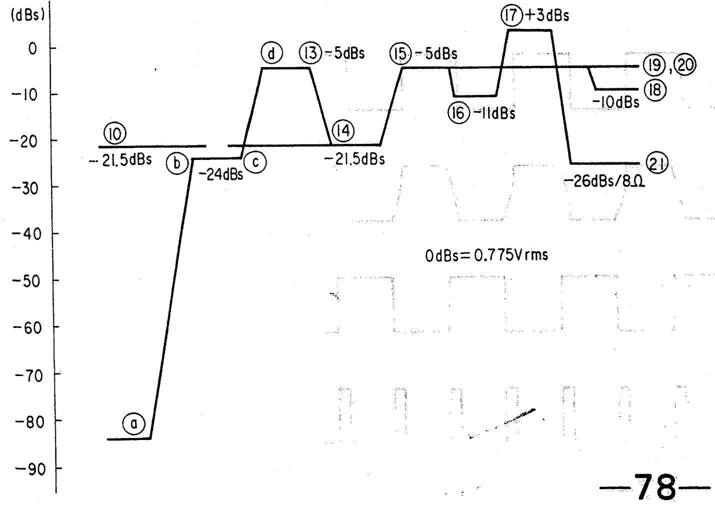
3-34. 8FG SIGNAL GENERATOR TIMING CHART (2)


(5) A (IC2-⑦)
(11) (9)+(10) (IC4-④)
(12) INTEGRATOR (Q32-B)
(13) DELAY (IC4-②)
(14) 8FG
20μsec

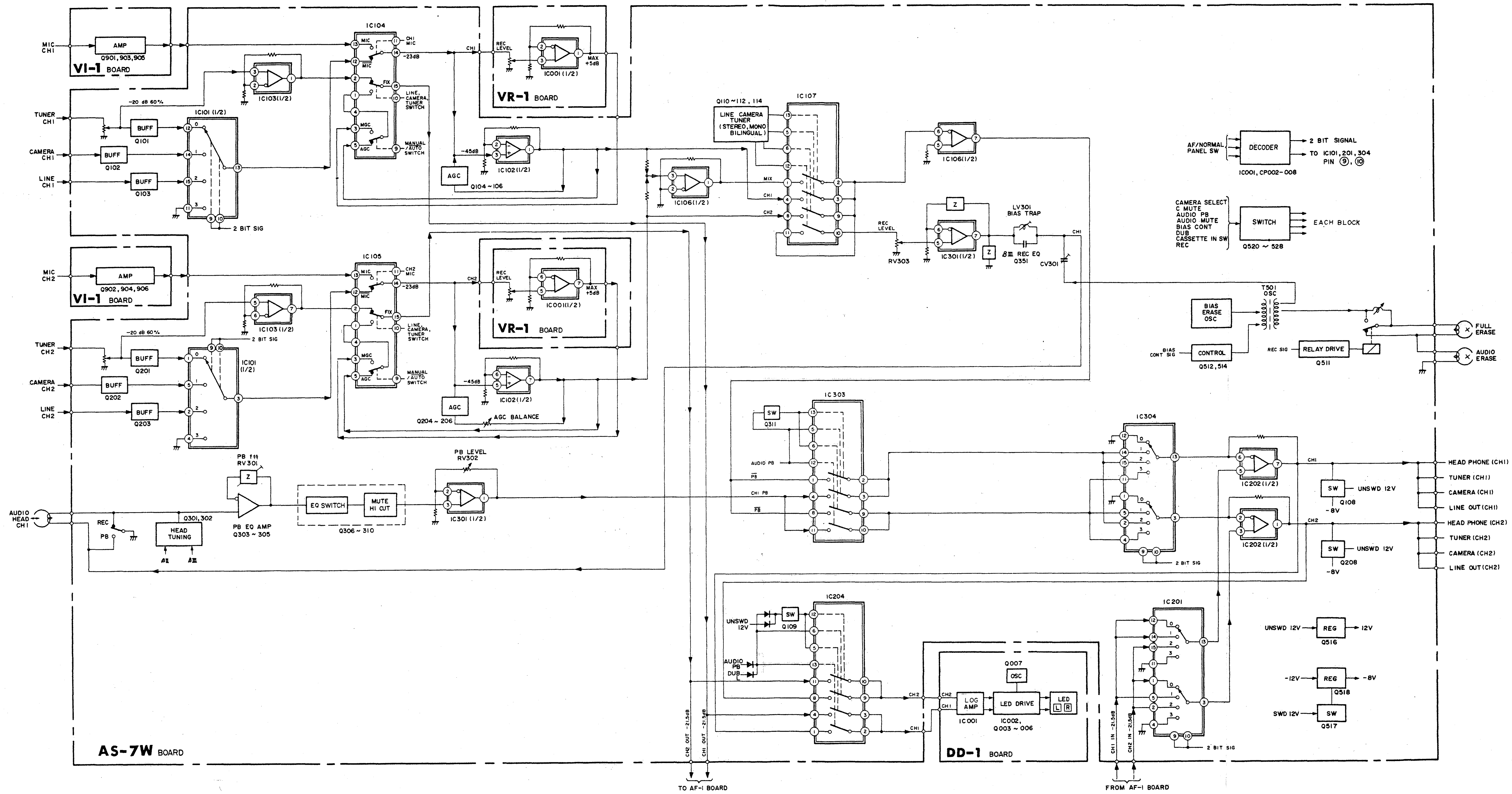
3-35. AUDIO LEVEL DIAGRAM


IC102
AGC
Q901,903,905
(Q902,904,906)
MIC
①-60dBs
P.A
⑥-45 dBs
②-10dBs
LINE
Q103
(Q203)
⑤ -23dBs
INDICATOR
③-20dBs
CAMERA
Q102
(Q202)
-21.5dBs ⑨
AFM
⑩-21.5dBs
⑦-33dBs
MANUAL REC
O.A
⑧
⑱ LINE -10dBs
⑯
⑲ CAMERA -5dBs
⑳ TUNER -5dBs
④
TUNER
Q101
(Q201)
IC103
⑬
⑭
IC106
(1/2)
L
R
⑫
M.A
IC106
(1/2)
⑪
⑯ -11dBs
⑰ +3dBs
㉑-26dBs
8Ω
-3dBs
⑭
⑮
R.A
Z
RV303
IC301
(1/2)
⑯
10Ω
ⓐ
EQ. A
ⓑ
EQ
ⓒ
B.A
ⓓ
Q303, 304, 305
IC301
(1/2)

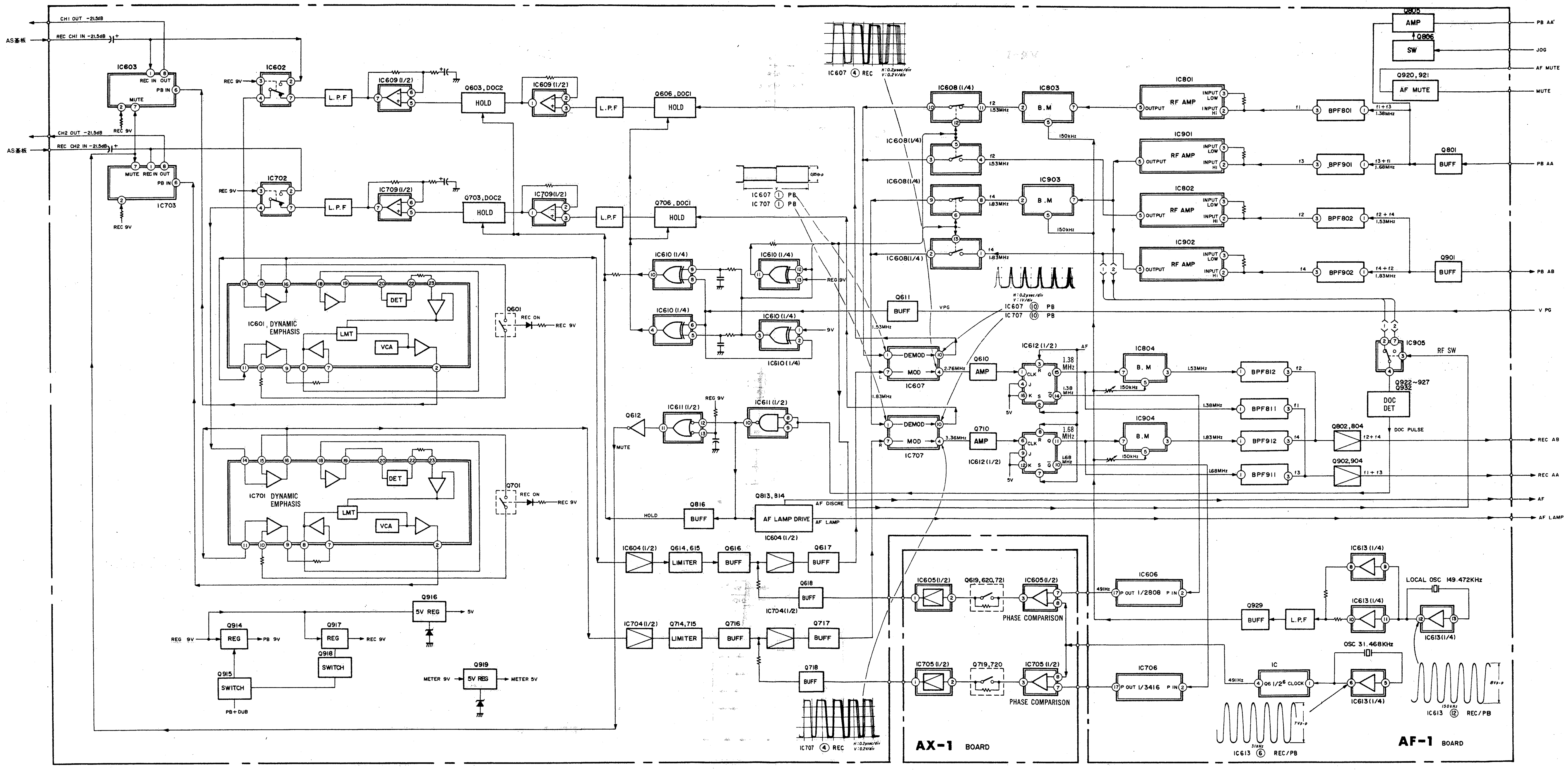




3-36. AUDIO BLOCK DIAGRAM (1)

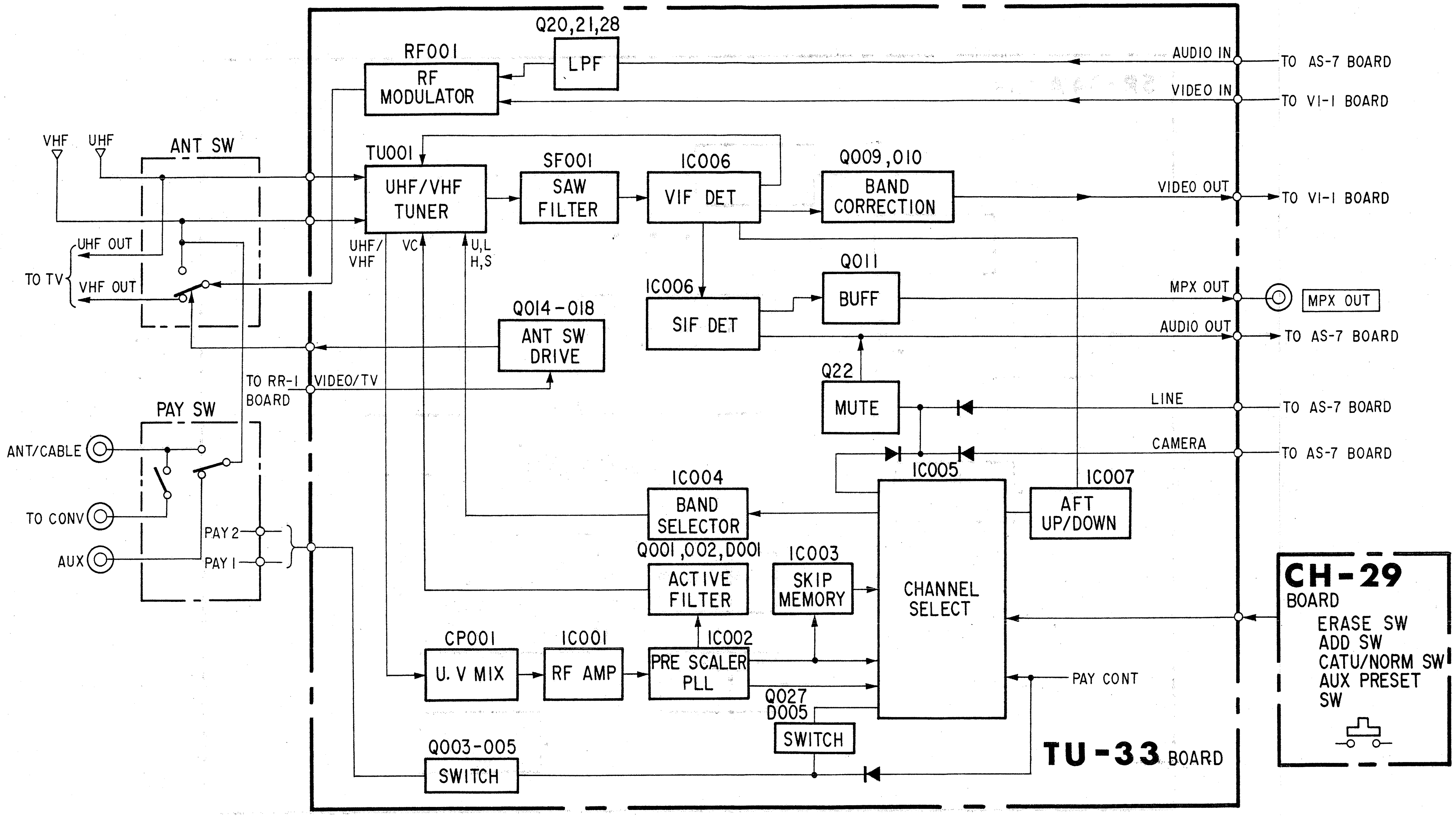

MIC CH1
AMP
Q901, 903, 905
VI-1 BOARD
IC104
IC103(1/2)
-20 dB 60%
IC101 (1/2)
TUNER CH1
CAMERA CH1
LINE CH1
BUFF
Q101
Q102
Q103
2 BIT SIG
MIC
FIX
MGC
AGC
CH1 MIC
-23dB
LINE, CAMERA, TUNER SWITCH
MANUAL /AUTO SWITCH
REC LEVEL
IC001 (1/2)
MAX +5dB
VR-1 BOARD
-45dB
IC102(1/2)
Q104 ~ 106
MIC CH2
Q902, 904, 906
TUNER CH2
CAMERA CH2
LINE CH2
Q201
Q202
Q203
IC105
CH2 MIC
Q204 ~ 206
AGC BALANCE
Q110 ~ 112, 114
LINE CAMERA TUNER (STEREO, MONO BILINGUAL)
IC107
MIX
CH1
CH2
IC106(1/2)
Z
LV301 BIAS TRAP
REC LEVEL
RV303
IC301(1/2)
8mm REC EQ Q351
CV301
AF/NORMAL PANEL SW
DECODER
IC001, CP002-008
2 BIT SIGNAL
TO IC101, 201, 304 PIN ⑨, ⑩
CAMERA SELECT
C MUTE
AUDIO PB
AUDIO MUTE
BIAS CONT
DUB
CASSETTE IN SW
REC
SWITCH
Q520 ~ 528
EACH BLOCK
BIAS ERASE OSC
T501 OSC
BIAS CONT SIG
CONTROL
Q512, 514
REC SIG
RELAY DRIVE
Q511
FULL ERASE
AUDIO ERASE
PB f11 RV301
PB EQ AMP Q303 ~ 305
EQ SWITCH
MUTE HI CUT
Q306 ~ 310
PB LEVEL RV302
IC301 (1/2)
AUDIO HEAD CH1
REC
PB
Q301, 302
HEAD TUNING
IC303
SW
Q311
AUDIO PB
PB
CH1 PB
IC304
IC202(1/2)
SW
UNSWD 12V
Q108
-8V
Q208
HEAD PHONE (CH1)
TUNER (CH1)
CAMERA (CH1)
LINE OUT (CH1)
HEAD PHONE (CH2)
TUNER (CH2)
CAMERA (CH2)
LINE OUT (CH2)
IC204
UNSWD 12V
Q109
AUDIO PB
DUB
Q007
OSC
LOG AMP
IC001
LED DRIVE
IC002, Q003 ~ 006
LED
L R
DD-1 BOARD
IC201
UNSWD 12V
REG
Q516
12V
-12V
Q518
-8V
SWD 12V
Q517
AS-7W BOARD
CH2 OUT -21.5dB
CH1 OUT -21.5dB
TO AF-1 BOARD
CH1 IN -21.5dB
CH2 IN -21.5dB
FROM AF-1 BOARD

3-37. AUDIO BLOCK DIAGRAM (2)

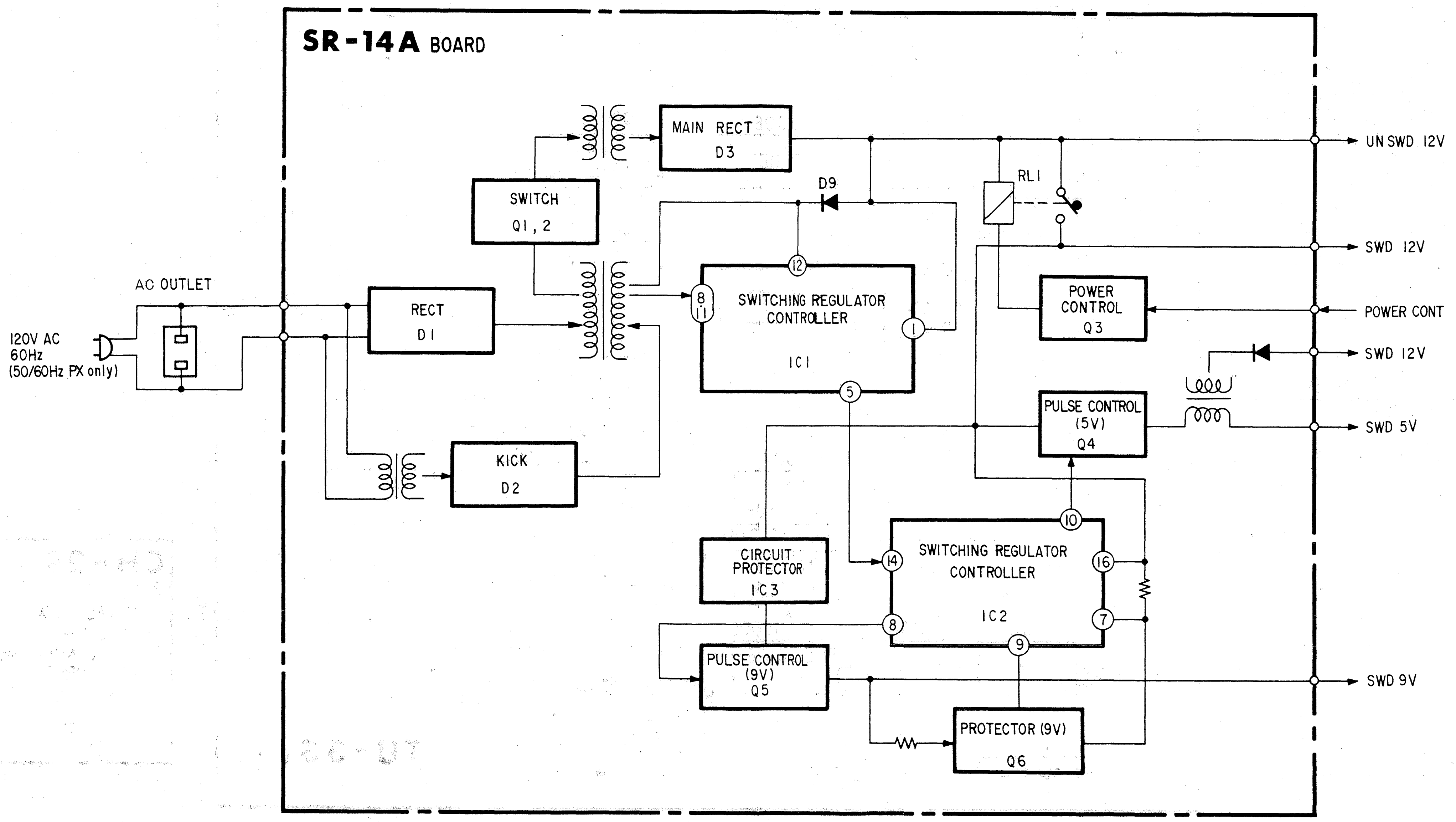


CH1 OUT -21.5dB
REC CH1 IN -21.5dB
AS基板
CH2 OUT -21.5dB
REC CH2 IN -21.5dB
IC603
IC602
IC609 (1/2)
Q603, DOC2
HOLD
IC609 (1/2)
L.P.F
Q606, DOC1
IC702
IC703
IC709 (1/2)
Q703, DOC2
IC709 (1/2)
Q706, DOC1
REC 9V
MUTE
REC IN OUT
PB IN
IC601 DYNAMIC EMPHASIS
IC701 DYNAMIC EMPHASIS
DET
LMT
VCA
Q601
Q701
REC ON
IC610 (1/4)
IC610 (1/4)
Q612
IC611 (1/2)
IC611 (1/2)
Q816
BUFF
Q813, 814
AF LAMP DRIVE
AF DISCRE
AF LAMP
IC604 (1/2)
IC604 (1/2)
Q614, 615
LIMITER
Q616
Q617
Q618
IC704 (1/2)
Q714, 715
Q716
Q717
Q718
Q916
5V REG
Q914
REG
Q917
Q918
SWITCH
Q915
Q919
METER 9V
METER 5V
PB+DUB
IC607 ④ REC
IC707 ④ REC
IC607 ① PB
IC707 ① PB
IC607 ⑩ PB
IC707 ⑩ PB
IC608 (1/4)
Q611
VPG
DEMOD
MOD
IC607
IC707
Q610
AMP
Q710
IC612 (1/2)
CLK
2.76MHz
3.36MHz
1.38 MHz
1.68 MHz
1.53MHz
1.83MHz
150kHz
IC803
IC903
B.M
IC804
IC904
IC801
IC901
IC802
IC902
RF AMP
INPUT LOW
INPUT HI
OUTPUT
BPF801
BPF901
BPF802
BPF902
BPF812
BPF811
BPF912
BPF911
f1+f3
f3+f1
f2+f4
f4+f2
Q805
SW
Q806
Q920, 921
AF MUTE
Q801
Q901
IC905
RF SW
Q922~927
Q932
DOC DET
DOC PULSE
Q802, 804
Q902, 904
PB AA'
JOG
AF MUTE
MUTE
PB AA
PB AB
V PG
REC AB
REC AA
AF
AF LAMP
IC605 (1/2)
Q619, 620, 721
PHASE COMPARISON
IC705 (1/2)
Q719, 720
IC606
P OUT 1/2808
IC706
P OUT 1/3416
49.1Hz
IC613 (1/4)
LOCAL OSC 149.472KHz
Q929
OSC 31.468KHz
IC
Q6 1/2⁶ CLOCK
IC613 ⑥ REC/PB
IC613 ⑫ REC/PB
AX-1 BOARD
AF-1 BOARD

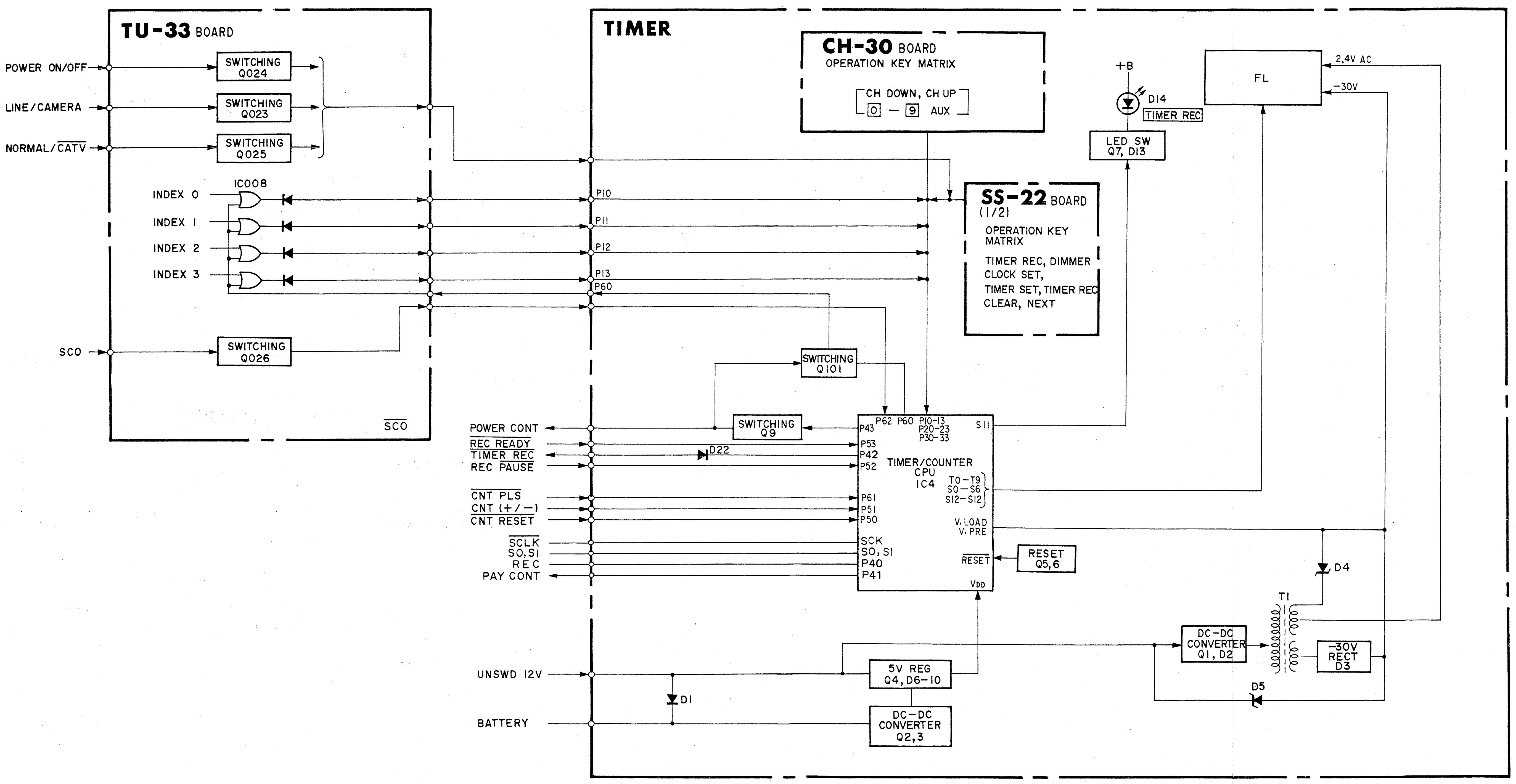
3-38. TUNER BLOCK DIAGRAM


Q20,21,28
LPF
RF001
RF MODULATOR
AUDIO IN
TO AS-7 BOARD
VIDEO IN
TO VI-1 BOARD
VHF
UHF
ANT SW
TU001
UHF/VHF TUNER
SF001
SAW FILTER
IC006
VIF DET
Q009,010
BAND CORRECTION
VIDEO OUT
TO VI-1 BOARD
UHF OUT
TO TV
VHF OUT
UHF/VHF
VC
U,L H,S
Q011
BUFF
IC006
SIF DET
MPX OUT
MPX OUT
Q014-018
ANT SW DRIVE
AUDIO OUT
TO AS-7 BOARD
TO RR-1 BOARD
VIDEO/TV
Q22
MUTE
LINE
TO AS-7 BOARD
PAY SW
ANT/CABLE
CAMERA
TO AS-7 BOARD
IC005
IC004
BAND SELECTOR
IC007
AFT UP/DOWN
TO CONV
PAY 2
PAY 1
AUX
Q001,002,D001
ACTIVE FILTER
IC003
SKIP MEMORY
CHANNEL SELECT
CH-29
BOARD
ERASE SW
ADD SW
CATU/NORM SW
AUX PRESET SW
CP001
U. V MIX
IC001
RF AMP
IC002
PRE SCALER PLL
PAY CONT
Q027
D005
SWITCH
Q003-005
SWITCH
TU-33 BOARD

3-39. POWER SUPPLY BLOCK DIAGRAM


SR-14A BOARD
120V AC
60Hz
(50/60Hz PX only)
AC OUTLET
RECT
D1
KICK
D2
SWITCH
Q1, 2
MAIN RECT
D3
D9
SWITCHING REGULATOR
CONTROLLER
IC1
⑫
8
11
①
⑤
RL1
POWER
CONTROL
Q3
PULSE CONTROL
(5V)
Q4
CIRCUIT
PROTECTOR
IC3
SWITCHING REGULATOR
CONTROLLER
IC2
⑩
⑭
⑯
⑧
⑦
⑨
PULSE CONTROL
(9V)
Q5
PROTECTOR (9V)
Q6
UN SWD 12V
SWD 12V
POWER CONT
SWD 12V
SWD 5V
SWD 9V

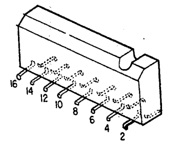
3-40. TIMER BLOCK DIAGRAM


TU-33 BOARD
POWER ON/OFF
LINE/CAMERA
NORMAL/CATV
SWITCHING Q024
SWITCHING Q023
SWITCHING Q025
IC008
INDEX 0
INDEX 1
INDEX 2
INDEX 3
SCO
SWITCHING Q026
SCO
TIMER
CH-30 BOARD
OPERATION KEY MATRIX
CH DOWN, CH UP
0 — 9 AUX
+B
D14
TIMER REC
LED SW Q7, D13
FL
2.4V AC
−30V
SS-22 BOARD (1/2)
OPERATION KEY MATRIX
TIMER REC, DIMMER
CLOCK SET,
TIMER SET, TIMER REC
CLEAR, NEXT
P10
P11
P12
P13
P60
SWITCHING Q101
SWITCHING Q9
POWER CONT
REC READY
TIMER REC
REC PAUSE
D22
CNT PLS
CNT (+/−)
CNT RESET
SCLK
SO, SI
REC
PAY CONT
P43
P62
P60
P10–13
P20–23
P30–33
S11
P53
P42
P52
TIMER/COUNTER CPU IC4
T0–T9
S0–S6
S12–S12
P61
P51
P50
V. LOAD
V. PRE
SCK
SO, SI
P40
P41
RESET
RESET Q5,6
VDD
D4
T1
DC-DC CONVERTER Q1, D2
−30V RECT D3
D5
UNSWD 12V
BATTERY
D1
5V REG Q4, D6–10
DC-DC CONVERTER Q2,3

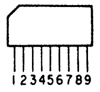
SECTION 4
SCHEMATIC DIAGRAM and PRINTED WIRING BOARDS

4-1. SEMICONDUCTORS

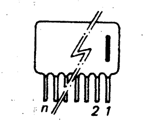
BA6122A


16
14
12
10
8
6
4
2

BA6138
CX892
CX894
LA7920
TC5081AP

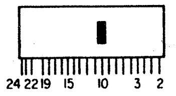


BX1013
BX1016
BX1038
BX1041
BX1047
BX1141
BX1142
BX1143
BX1172
BX3946-1
BX3955
BX3976
BX3978
BX3983
BX3984
BX3988

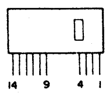


(Marking side view)

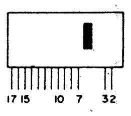
BX1039


24 22 19 15 10 3 2

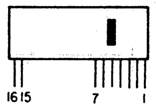
BX1043



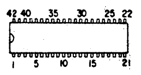
BX3980



BX3981

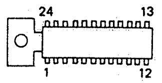


CX194A
CX194B
CX194B-0
CX885B


42 40 35 30 25 22
1 5 10 15 21

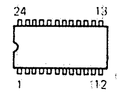
(Top view)

CX20083



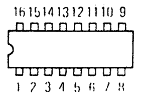
(Top view)

CX864
CX867
CX868



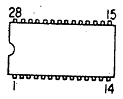
(Top view)

CX865
CX870
CX870A
HD14538BP
MB3759
MB84051B
MB84053B
MC14538BCP
TC4051BP
TC4052BP
TC4053BP
TC4555BP
TC40H076P
TL494CN
µPD4051BC
µPD4053BC


16 15 14 13 12 11 10 9
1 2 3 4 5 6 7 8

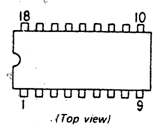
(Top view)

CX866
CX866A
CX869A



(Top view)

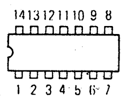
CX882
MB8758
MSL9351RS
TC9122P



(Top view)

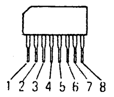
CX761A
CX7905A
HD14011BP
HD14066BP
HD14069UBP
MB3614
MB4204
MB84011B
MB84013B
MB84069UB
MB84081B
MB74LS04
SN74LS04N
TC4011BP
TC4013BP

TC4024BP
TC4030BP
TC4066BP
TC4069UBP
TC4071BP
TC4081BP
TC5026BP
TC40H004P
µPC324C
µPC339C
µPD4030BC
µPD4066BC
µPD4069UBC
µPD4081BC

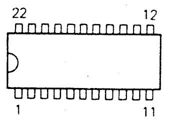

14 13 12 11 10 9 8
1 2 3 4 5 6 7

(Top view)

CX20008
CX20061
µPC1373C
µPC1373H

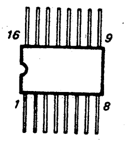


MB8747

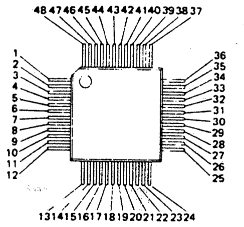


(Top view)

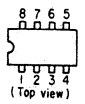
MB84066B



MB8845-591M
MB8845-592M
MB8845-595M
MB88501-149N

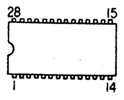

48 47 46 45 44 43 42 41 40 39 38 37
1 2 3 4 5 6 7 8 9 10 11 12
36 35 34 33 32 31 30 29 28 27 26 25
13 14 15 16 17 18 19 20 21 22 23 24

NJM2903D
NJM4558D
NJM4560D
NJM4562D
NJM4562DR
µPC393C
µPC4558C



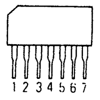
(Top view)

TD6306P

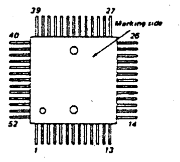


(Top view)

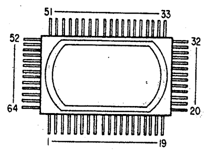
µPC577H
µPC1037H



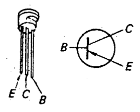
µPD651G-517


39 27
Marking side
40 26
52 14
1 13

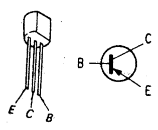
µPD7519-527


51 33
52 32
64 20
1 19

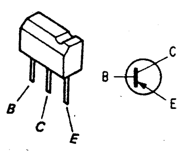
2SA608SP



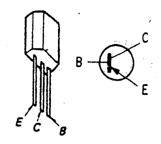
2SA733-P
2SA844



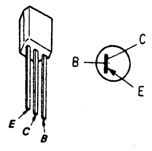
2SA874
2SA881
2SA937



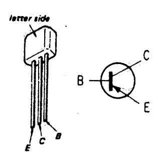
2SA1027-6



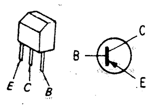
2SA1048
2SA1115



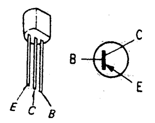
2SA1175
2SA1175F


letter side
E C B
B C E

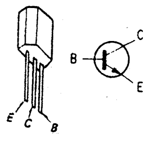
2SB733
2SB733-4



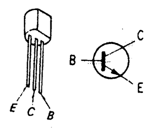
2SA772
2SB772



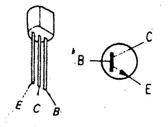
2SC403C



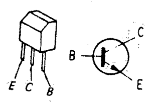
2SC945
2SC1345
2SC1362
2SD734
2SD786



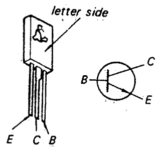
2SC1474
2SD788
2SD789



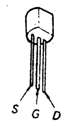
2SD773
2SD774



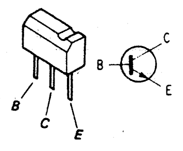
2SD600E


letter side
E C B
B C E

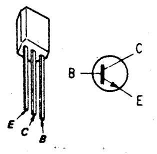
2SK105A-20
2SK107-2



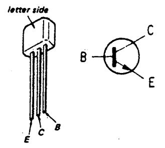
2SC2021
2SC2673



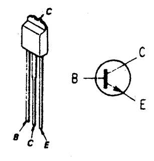
2SC536SP
2SC2458
2SC2603



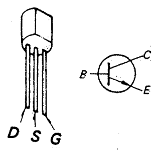
2SC2785
2SC2785-E


letter side
E C B
B C E

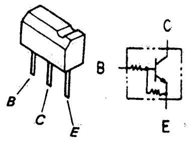
2SD1164



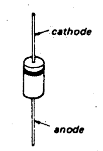
2SK43-4



DTC124ES
DTC124EF
DTC144F

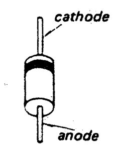


10E2

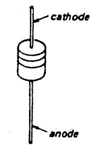

cathode
anode

1S2076
1S2348H
1SS106
1SS133
HZ33-1
RD4.3E-B2
RD4.7E-B1
RD4.7E-B2
RD5.1E-B
RD5.1E-B1
RD5.1E-B3
RD5.1E-N1
RD5.6E-B1

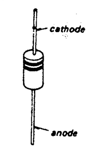
RD5.6E-B2
RD5.6E-N3
RD6.8E-B2
RD6.8E-B3
RD8.2E-B3
RD9.1E-B
RD9.1E-B1
RD13E-B
RD18E-B
RD30E-B4
RD33E-B3
RD47E-B


cathode
anode

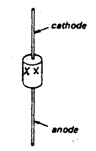
1SS119
1SS148


cathode
anode

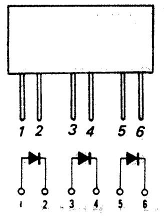
ERB81-004
SIB01-02


cathode
anode

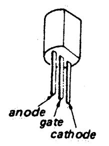
EQA11-09A


cathode
anode

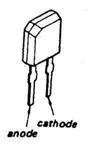
LT9230N


1 2 3 4 5 6
1 2 3 4 5 6

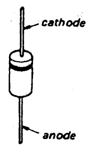
N13T1


anode
gate
cathode

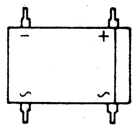
PH302A
PH302B


anode
cathode

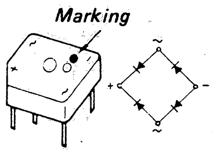
ERA81-004
RK13


cathode
anode

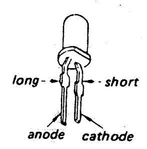
S1WB10



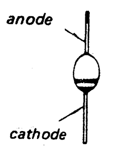
S3WB40



TLG123A
TL0123
TLR123
TLS123
TLY123


long
short
anode
cathode

V19C
V19E

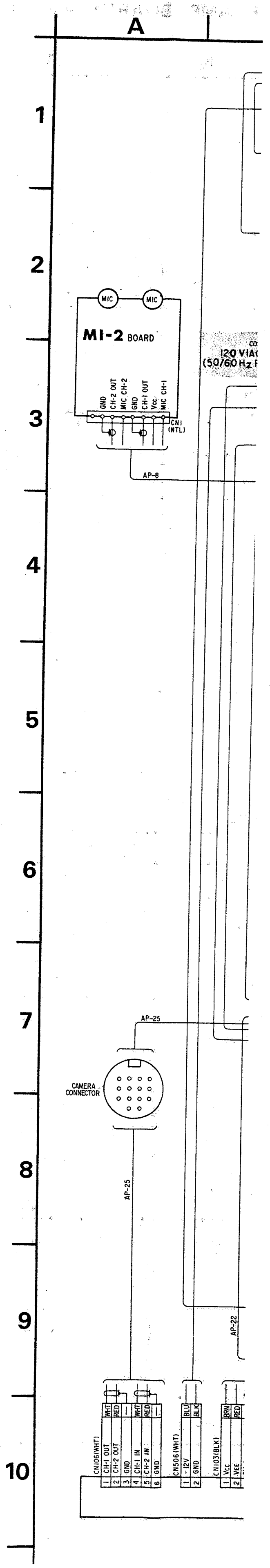

anode
cathode

When indicating parts by reference number, please include the board name.

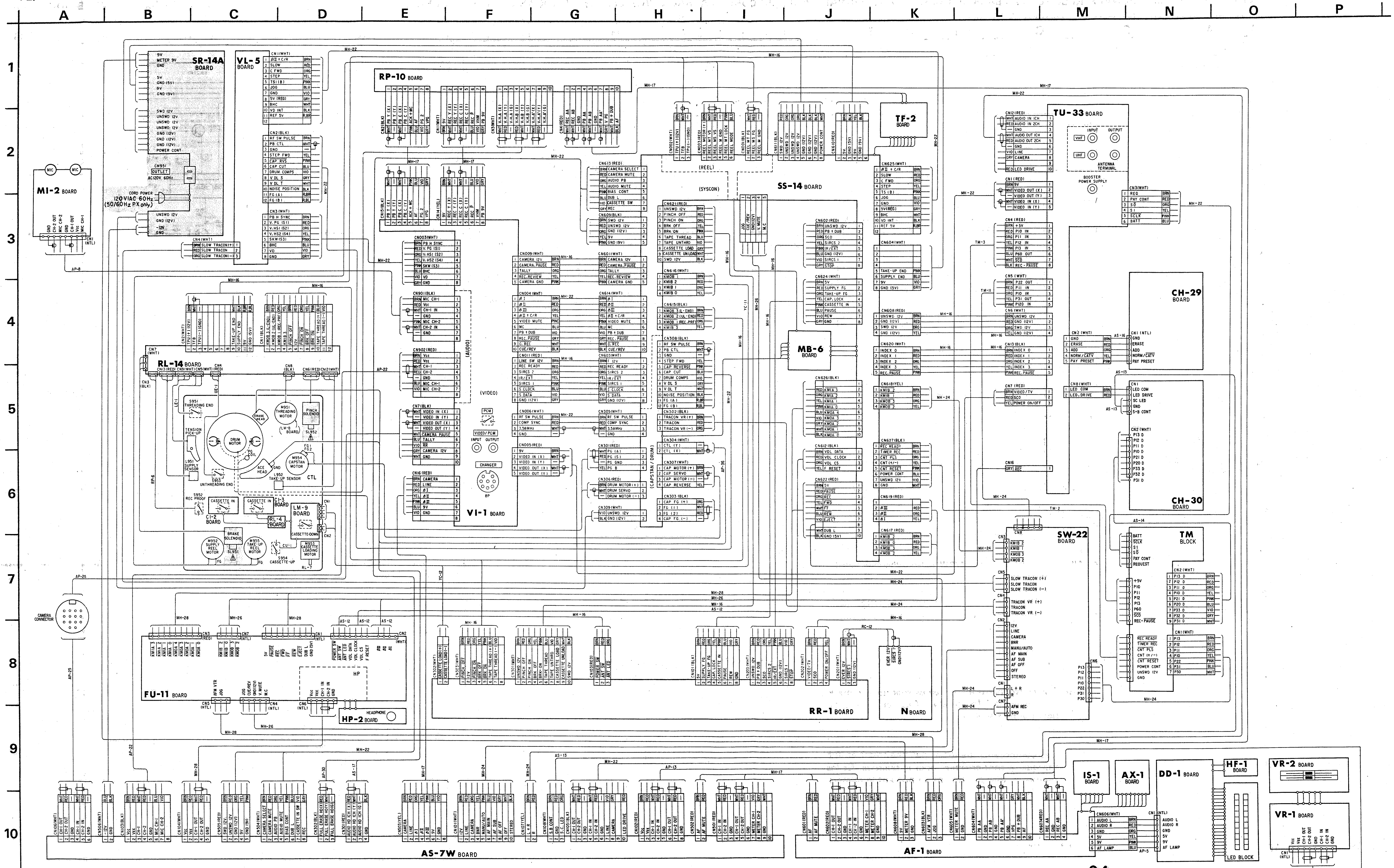
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

4-2. FRAME SCHEMA

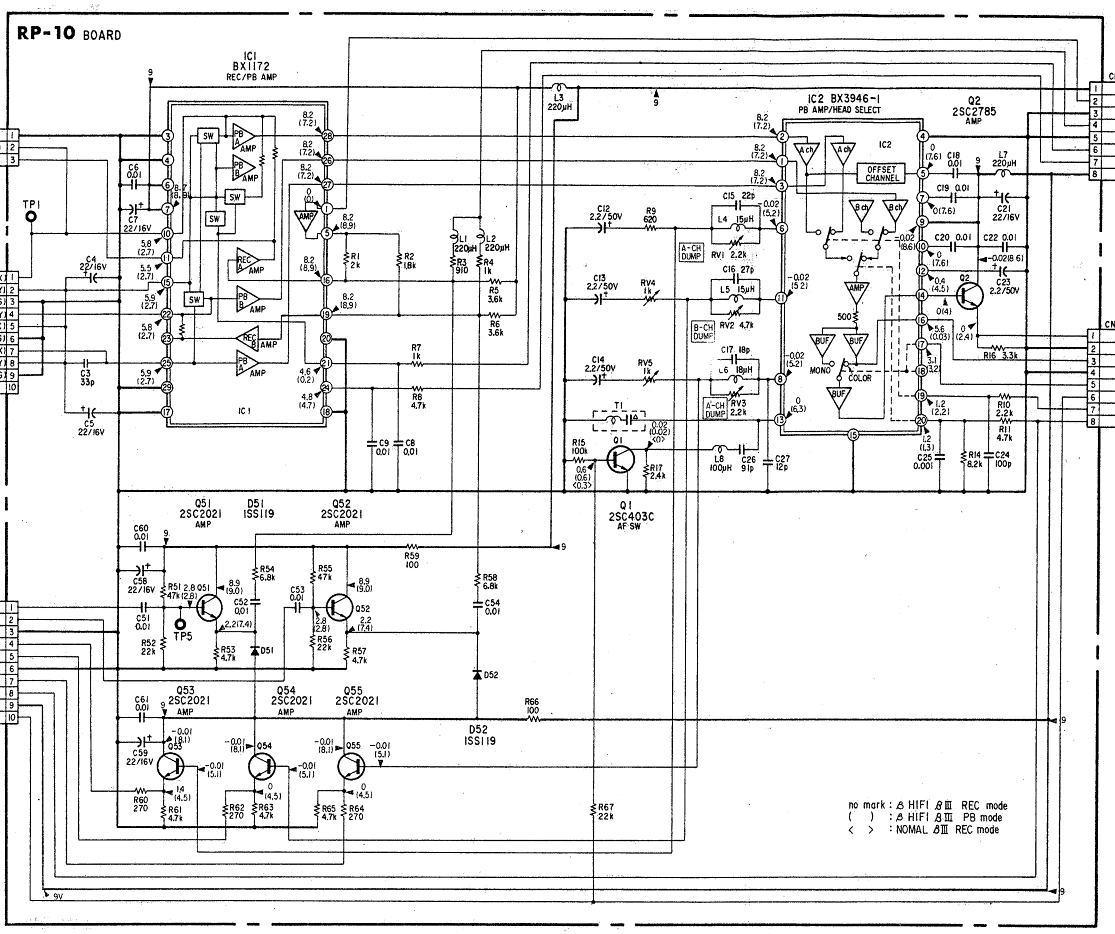

A
1
2
3
4
5
6
7
8
9
10
MI-2 BOARD
MIC
MIC
CAMERA CONNECTOR

4-2. FRAME SCHEMATIC DIAGRAM


A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
1
2
3
4
5
6
7
8
9
10
SR-14A BOARD
VL-5 BOARD
RP-10 BOARD
MI-2 BOARD
CORD POWER 120V AC 60Hz (50/60Hz PX only)
RL-14 BOARD
VI-1 BOARD
SS-14 BOARD
TF-2 BOARD
TU-33 BOARD
MB-6 BOARD
CH-29 BOARD
CH-30 BOARD
TM BLOCK
SW-22 BOARD
LM-9 BOARD
C-2 BOARD
C-3 BOARD
RL-4 BOARD
CAMERA CONNECTOR
FU-11 BOARD
HP-2 BOARD
RR-1 BOARD
N BOARD
AS-7W BOARD
AF-1 BOARD
IS-1 BOARD
AX-1 BOARD
DD-1 BOARD
HF-1 BOARD
VR-2 BOARD
VR-1 BOARD
LED BLOCK

4-3. VI-1 (Y & CHROMA SIGNALS RECORD/PLAYBACK PROCESS, AUDIO SIGNAL (βHIFI) RECORD/PLAYBACK PROCESS), RP-10 (DOWN-CONVERTED CHROMA, Y-FM & βHIFI SIGNALS, RECORD/PLAYBACK AMP) BOARDS SCHEMATI

– Ref. No. VI-1 BOARD : 1000 series, RP-10 BOARD . 8500 series –


RP-10 BOARD
IC1 BX1172 REC/PB AMP
IC2 BX3946-1 PB AMP/HEAD SELECT
Q2 2SC2785 AMP
Q1 2SC403C AF SW
Q51 2SC2021 AMP
D51 1SS119
Q52 2SC2021 AMP
Q53 2SC2021 AMP
Q54 2SC2021 AMP
Q55 2SC2021 AMP
D52 1SS119
CN1 (WHT)
CN2 (BLK)
CN3 (WHT)
CN4 (RED)
CN5 (WHT) (CHECK PIN)
VIDEO HEAD
A-CH
B-CH
A^F CH
TO AF-1 BOARD CN604, CN607
TP1
TP5
no mark : β HIFI βII REC mode
( ) : β HIFI βII PB mode
< > : NOMAL βIII REC mode

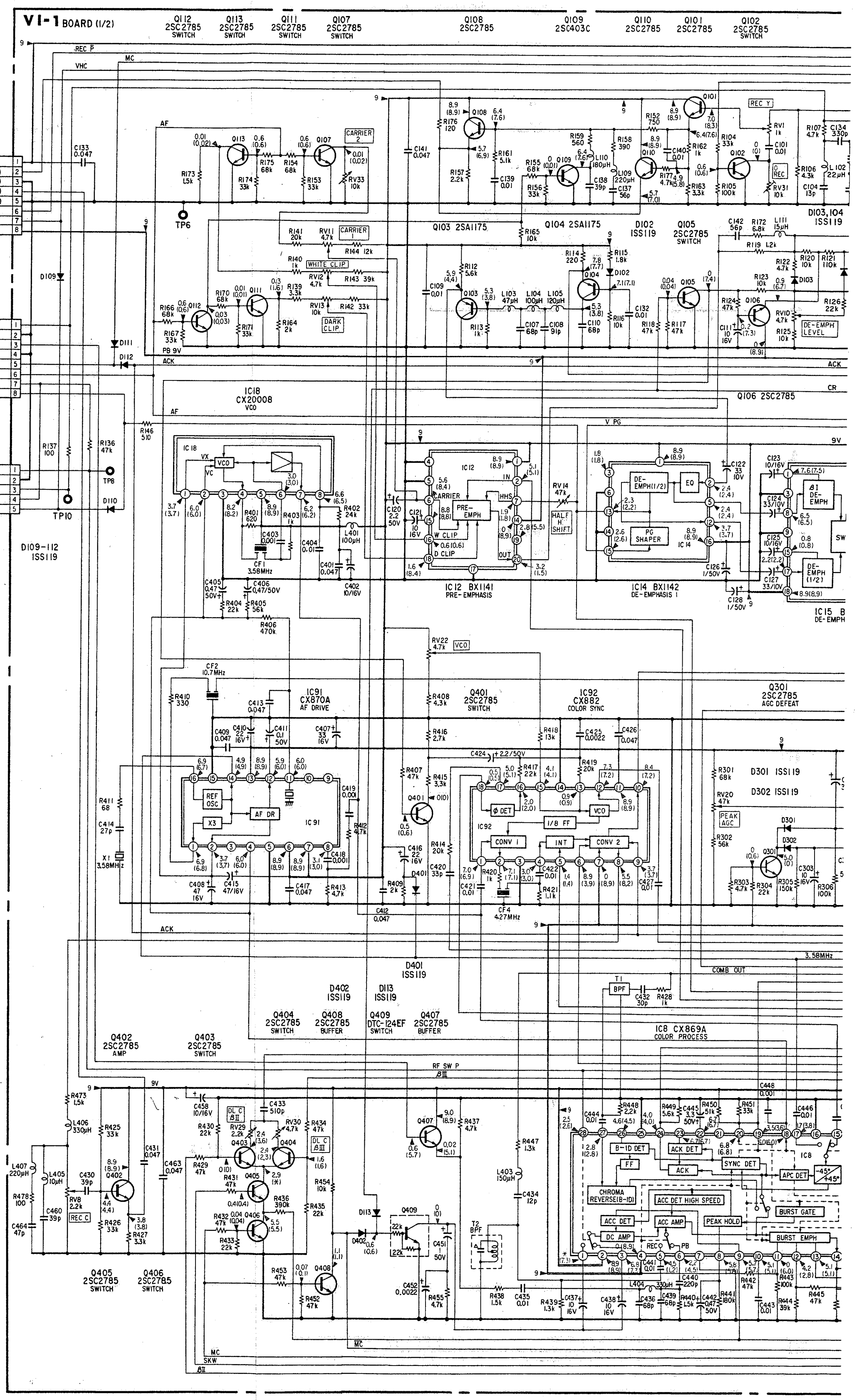
Note:

- All resistors are in ohms, 1/8W unless otherwise noted. kΩ : 1000Ω, MΩ : 1000kΩ
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ▭ : nonflammable resistor.
- The red lines show the main voltages.
- All voltages are dc measured with a VOM (10MΩ/V).

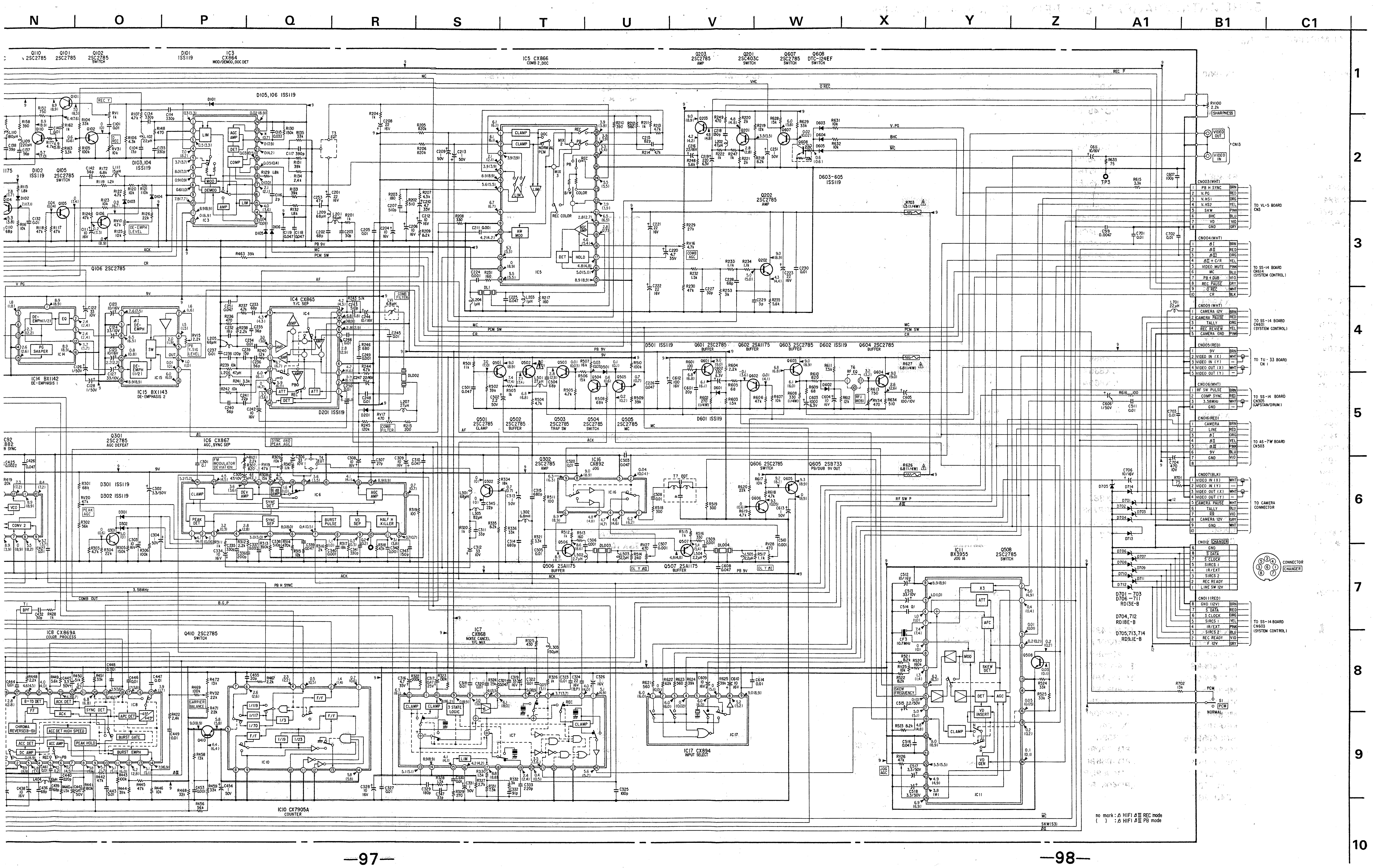
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

```
When indicating parts by refer-
ence number, please include
the board name.
```


VI-1 BOARD (1/2)
Q112 2SC2785 SWITCH
Q113 2SC2785 SWITCH
Q111 2SC2785 SWITCH
Q107 2SC2785 SWITCH
Q108 2SC2785
Q109 2SC403C
Q110 2SC2785
Q101 2SC2785
Q102 2SC2785 SWITCH
CN14 (YEL)
CN15 (BLK)
CN002 (RED) (CHECK PIN)
TP6
TP8
TP10
Q103 2SA1175
Q104 2SA1175
D102 1SS119
Q105 2SC2785 SWITCH
D103, 104 1SS119
Q106 2SC2785
IC18 CX20008 VCO
D109–112 1SS119
IC12 BX1141 PRE-EMPHASIS
IC14 BX1142 DE-EMPHASIS I
IC15 DE-EMPH
IC91 CX870A AF DRIVE
Q401 2SC2785 SWITCH
IC92 CX882 COLOR SYNC
Q301 2SC2785 ACC DEFEAT
D301 1SS119
D302 1SS119
D401 1SS119
D402 1SS119
D113 1SS119
Q404 2SC2785 SWITCH
Q408 2SC2785 BUFFER
Q409 DTC-124EF SWITCH
Q407 2SC2785 BUFFER
Q402 2SC2785 AMP
Q403 2SC2785 SWITCH
IC8 CX869A COLOR PROCESS
Q405 2SC2785 SWITCH
Q406 2SC2785 SWITCH
X1 3.58MHz
CF4 4.27MHz

:K AMP) BOARDS SCHEMATIC DIAGRAM

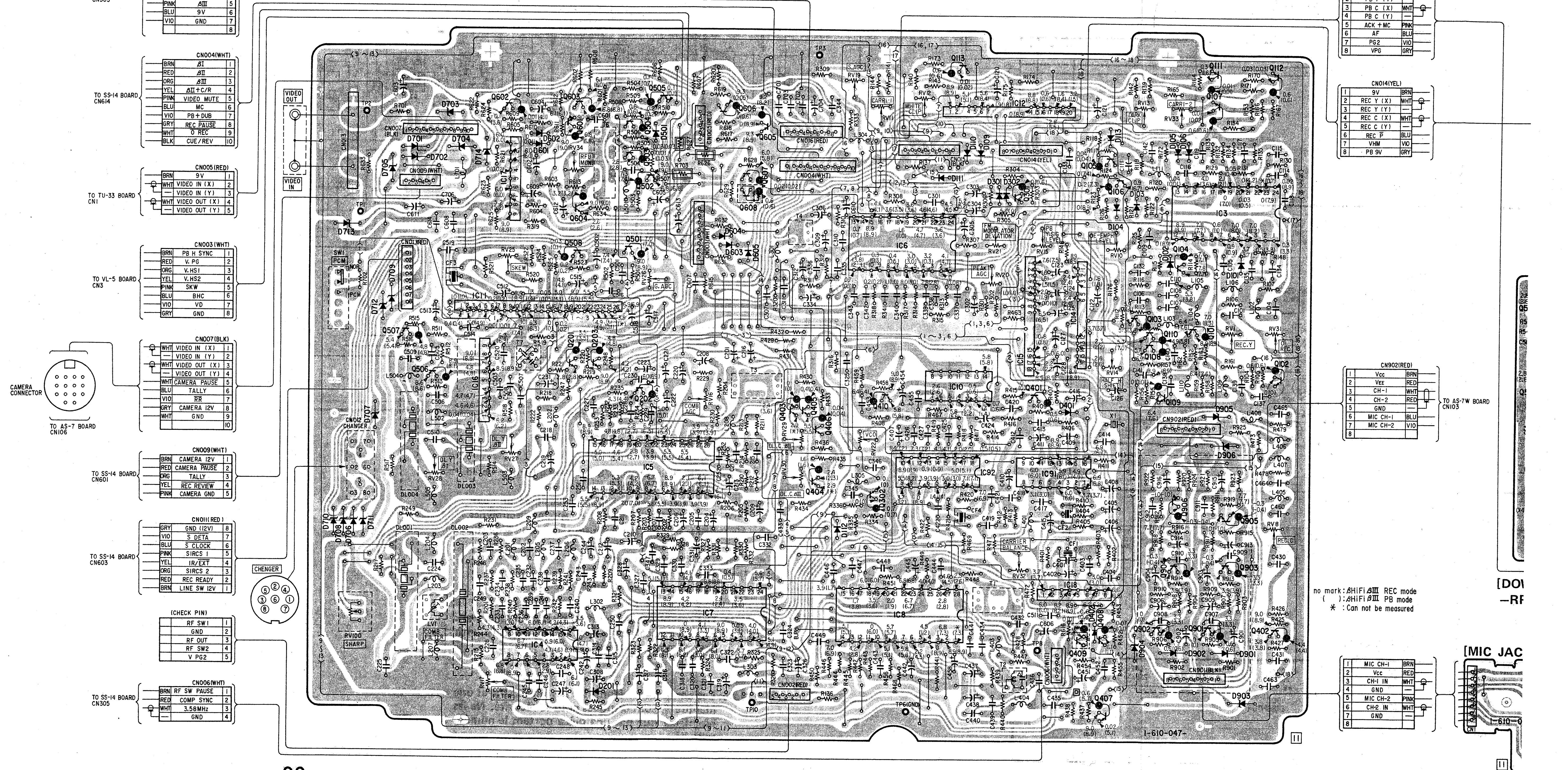

N
O
P
Q
R
S
T
U
V
W
X
Y
Z
A1
B1
C1
1
2
3
4
5
6
7
8
9
10
Q110 2SC2785
Q101 2SC2785
Q102 2SC2785 SWITCH
D101 1SS119
IC3 CX864 MOD/DEMOD, DOC DET
IC5 CX866 COMB 2, DOC
Q203 2SC2785 AMP
Q201 2SC403C SWITCH
Q607 2SC2785 SWITCH
Q608 DTC-124EF SWITCH
D105,106 1SS119
D103,104 1SS119
D102 1SS119
Q105 2SC2785 SWITCH
Q106 2SC2785
D603-605 1SS119
Q202 2SC2785 AMP
RV100 2.2k SHARPNESS
VIDEO OUT
VIDEO IN
CN13
TP3
IC4 CX865 Y/C SEP
IC14 BX1142 DE-EMPHASIS 1
IC15 BX1143 DE-EMPHASIS 2
D201 1SS119
D501 1SS119
Q601 2SC2785 BUFFER
Q602 2SA1175 BUFFER
Q603 2SC2785 BUFFER
D602 1SS119
Q604 2SC2785 BUFFER
D601 1SS119
Q501 2SC2785 CLAMP
Q502 2SC2785 BUFFER
Q503 2SC2785 TRAP SW
Q504 2SC2785 SWITCH
Q505 2SC2785 MC
Q301 2SC2785 AGC DEFEAT
IC6 CX867 AGC, SYNC SEP
D301 1SS119
D302 1SS119
Q302 2SC2785 AMP
IC16 CX892 JOG
Q606 2SC2785 SWITCH
Q605 2SB733 PB/DUB 9V OUT
Q506 2SA1175 BUFFER
Q507 2SA1175 BUFFER
IC11 BX3955 JOG IA
Q508 2SC2785 SWITCH
IC8 CX869A COLOR PROCESS
Q410 2SC2785 SWITCH
IC7 CX868 NOISE CANCEL Y/C MIX
IC10 CX7905A COUNTER
IC17 CX894 INPUT SELECT
CN003(WHT)
1 PB H SYNC BRN
2 V.PG RED
3 V.HS1 ORG
4 V.HS2 YEL
5 SKW PINK
6 BHC BLU
7 VD VIO
8 GND GRY
TO VL-5 BOARD CN3
CN004(WHT)
1 βI BRN
2 βII RED
3 βIII ORG
4 βII + C/R YEL
5 VIDEO MUTE PINK
6 MC BLU
7 PB + DUB VIO
8 REC PAUSE GRY
9 O REC WHT
10 CR BLK
TO SS-14 BOARD CN614 (SYSTEM CONTROL)
CN009(WHT)
1 CAMERA 12V BRN
2 CAMERA PAUSE RED
3 TALLY ORG
4 REC REVIEW YEL
5 CAMERA GND PINK
TO SS-14 BOARD CN601 (SYSTEM CONTROL)
CN005(RED)
1 9V BRN
2 VIDEO IN (X) WHT
3 VIDEO IN (Y) —
4 VIDEO OUT (X) WHT
5 VIDEO OUT (Y) —
TO TU-33 BOARD CN 1
CN006(WHT)
1 RF SW PULSE BRN
2 COMP SYNC RED
3 3.58MHz WHT
4 GND —
TO SS-14 BOARD CN305 (CAPSTAN/DRUM)
CN016(RED)
1 CAMERA BRN
2 LINE RED
3 βI ORG
4 βII YEL
5 βIII PINK
6 9V BLU
7 GND VIO
8
TO AS-7W BOARD CN503
CN007(BLK)
1 VIDEO IN (X) WHT
2 VIDEO IN (Y) —
3 VIDEO OUT (X) WHT
4 VIDEO OUT (Y) —
5 CAMERA PAUSE WHT
6 TALLY BLU
7 RR VIO
8 CAMERA 12V GRY
9 GND WHT
10
TO CAMERA CONNECTOR
CN012 CHANGER
6 GND
8 S DATA
7 S CLOCK
5 SIRCS 1
4 IR/EXT
3 SIRCS 2
2 REC READY
1 LINE SW 12V
CONNECTOR CHANGER
CN011(RED)
8 GND (12V) BRN
7 S DATA RED
6 S CLOCK ORG
5 SIRCS 1 YEL
4 IR/EXT PINK
3 SIRCS 2 BLU
2 REC READY VIO
1 F 12V GRY
TO SS-14 BOARD CN603 (SYSTEM CONTROL)
D701-703 D706-711 RD13E-B
D704,712 RD18E-B
D705,713,714 RD9.1E-B
PCM
S1
NORMAL
no mark : β HIFI βIII REC mode
( ) : β HIFI βIII PB mode

VI-1 (Y & CHROMA SIGNALS RECORD/PLAYBACK PROCESS, AUDIO SIGNAL (βHIFI) RECORD/PLAYBACK PROCESS), RP-10 (DOWN-CONVERTED CHROMA, Y-FM & βHIFI SIGNALS, RECORD/PLAYBACK AMP), MI-2 (MIC JACK) PRINTED WIRIN

– Ref. No. VI-1 BOARD : 1000 series, RP-10 BOARD : 8500 series, MI-2 BOARD 5600 series –

[Y & CHROMA SIGNALS REC/PB PROCESS, AUDIO SIGNAL (βHIFI) REC/PB PROCESS BOARD] – VI-1 –

	D	E	F	G	H	I	J	K	L	M	N	
Q・IC		507 506	IC16 IC17 602 IC11 IC4	601 603 604 508 201 203 504 503 501 505 502 202	IC5 IC7 606 607 608	605 403 405 406 404	410 302 IC6 IC8 IC92	113 IC10 IC12 301 IC15	401 IC91 IC14 IC18 409 408 407 105 106 103	110 108,109 902 104 906 904 101 111 107 IC3 901 903	905 112 102 402	Q・IC
D	713 710,708,706,711	705 707 712,709,702 701 703 704	714 602 601	201 501	604 603 605	112	111	110 109 301 302	401 113 104 402 103 904	105 106 102 902 905 906 901	101 903	D
ADJ・TP	TP2 TP1	RV28	RV25 RV27 RV17	RV34 RV26	RV16 TP10	RV29 RV30 TP3 RV9	RV11 RV22 RV12 TP6	RV21 RV20 RV32 RV15 TP8	RV10 RV14 RV13	RV33 RV1	RV31 RV8	ADJ・TP



TO AS-7W BOARD CN503

CN016(RED)

BRN	CAMERA	1
RED	LINE	2
ORG	βI	3
YEL	βII	4
PINK	βIII	5
BLU	9V	6
VIO	GND	7
		8

TO SS-14 BOARD CN614

CN004(WHT)

BRN	βI	1
RED	βII	2
ORG	βIII	3
YEL	βII + C/R	4
PINK	VIDEO MUTE	5
BLU	MC	6
VIO	PB + DUB	7
GRY	REC $\overline{\text{PAUSE}}$	8
WHT	$\overline{\text{0 REC}}$	9
BLK	CUE/REV	10

TO TU-33 BOARD CN1

CN005(RED)

BRN	9V	1
WHT	VIDEO IN (X)	2
—	VIDEO IN (Y)	3
WHT	VIDEO OUT (X)	4
—	VIDEO OUT (Y)	5

TO VL-5 BOARD CN3

CN003(WHT)

BRN	PB H SYNC	1
RED	V. PG	2
ORG	V. HS1	3
YEL	V. HS2	4
PINK	SKW	5
BLU	BHC	6
VIO	VD	7
GRY	GND	8

CN007(BLK)

WHT	VIDEO IN (X)	1
—	VIDEO IN (Y)	2
WHT	VIDEO OUT (X)	3
—	VIDEO OUT (Y)	4
WHT	$\overline{\text{CAMERA PAUSE}}$	5
BLU	TALLY	6
VIO	$\overline{\text{RR}}$	7
GRY	CAMERA 12V	8
WHT	GND	9
		10

TO SS-14 BOARD CN601

CN009(WHT)

BRN	CAMERA 12V	1
RED	CAMERA $\overline{\text{PAUSE}}$	2
ORG	TALLY	3
YEL	$\overline{\text{REC REVIEW}}$	4
PINK	CAMERA GND	5

TO SS-14 BOARD CN603

CN011(RED)

GRY	GND (12V)	8
VIO	$\overline{\text{S}}$ DETA	7
BLU	$\overline{\text{S}}$ CLOCK	6
PINK	SIRCS 1	5
YEL	IR/$\overline{\text{EXT}}$	4
ORG	SIRCS 2	3
RED	REC READY	2
BRN	LINE SW 12V	1

(CHECK PIN)

	RF SW1	1
	GND	2
	RF OUT	3
	RF SW2	4
	V PG2	5

TO SS-14 BOARD CN305

CN006(WHT)

BRN	RF SW PAUSE	1
RED	COMP SYNC	2
WHT	3.58MHz	3
—	GND	4

CN015(BLK)

1	PB Y (X)	WHT
2	PB Y (Y)	—
3	PB C (X)	WHT
4	PB C (Y)	—
5	ACK + MC	PINK
6	AF	BLU
7	PG2	VIO
8	VPG	GRY

CN014(YEL)

1	9V	BRN
2	REC Y (X)	WHT
3	REC Y (Y)	—
4	REC C (X)	WHT
5	REC C (Y)	—
6	REC $\overline{\text{P}}$	BLU
7	VHM	VIO
8	PB 9V	GRY

TO AS-7W BOARD CN103

CN902(RED)

1	Vcc	BRN
2	VEE	RED
3	CH-1	WHT
4	CH-2	RED
5	GND	—
6	MIC CH-1	BLU
7	MIC CH-2	VIO
8		

no mark : βHiFi βIII REC mode
( ) : βHiFi βIII PB mode
＊ : Can not be measured

1	MIC CH-1	BRN
2	Vcc	RED
3	CH-1 IN	WHT
4	GND	—
5	MIC CH-2	PINK
6	CH-2 IN	WHT
7	GND	—
8		

(MIC JACK) PRINTED WIRING BOARDS

CN015(BLK)

PB Y (X)	WHT
PB Y (Y)	—
PB C (X)	WHT
PB C (Y)	—
ACK +MC	PINK
AF	BLU
PG2	VIO
VPG	GRY

CN014(YEL)

9V	BRN
REC Y (X)	WHT
REC Y (Y)	—
REC C (X)	WHT
REC C (Y)	—
REC $\overline{P}$	BLU
VHM	VIO
PB 9V	GRY

CN4(RED)

1	REC AA	WHT
2	REC AB	WHT
3	GND	—
4	PB AA	WHT
5	PB AB	WHT
6	GND	—
7	PB AA'	WHT
8	V. PG	GRY
9	PB+DUB	WHT
10	AF	BLK

TO AS-7W BOARD CN604, CN607

(CHECK PIN)

1	GND	
2	VIDEO HEAD A0	
3	VIDEO HEAD A1	

CN3(WHT)

1	VIDEO HEAD A(X)	WHT
2	VIDEO HEAD A(Y)	RED
3	VIDEO HEAD A(G)	—
4	VIDEO HEAD B(X)	RED
5	VIDEO HEAD B(Y)	WHT
6	VIDEO HEAD B(G)	—
7	VIDEO HEAD A'(X)	WHT
8	VIDEO HEAD A'(Y)	RED
9	VIDEO HEAD A'(G)	—
10		

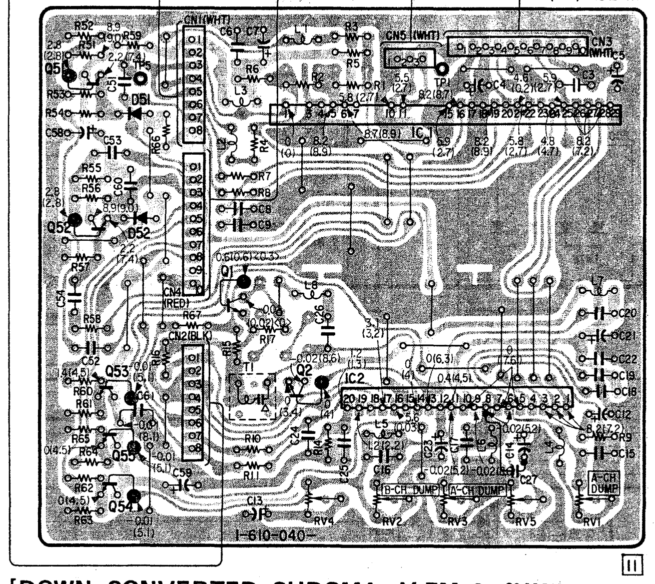
VIDEO HEAD
A−CH
B−CH
A'−CH

no mark: βHiFi βIII REC mode
( ): βHiFi βIII PB mode
⟨ ⟩: βIII REC mode

CN902(RED)

Vcc	BRN
VEE	RED
CH-1	WHT
CH-2	RED
GND	—
MIC CH-1	BLU
MIC CH-2	VIO

TO AS-7W BOARD CN103


CN1(WHT)
CN5(WHT)
CN3(WHT)
IC1
IC2
Q51
Q52
Q53
Q54
Q55
D51
D52
TP1
TP5
RV1
RV2
RV3
RV4
RV5
A-CH DUMP
1-610-040-
11

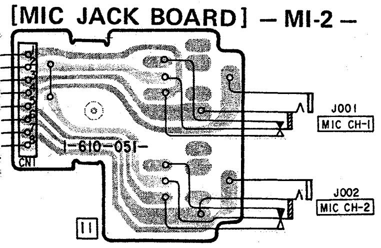
Q IC	D	ADJ, TP
		TP5 TP1
51		
IC1	51	
52	52	
1		
2		
53 IC2		
55		
54		RV4, 2, 3 RV5, 1

[DOWN-CONVERTED CHROMA, Y-FM & βHIFI SIGNALS REC/PB BOARD]
−RP-10 −

HiFi βIII REC mode
HiFi βIII PB mode
an not be measured

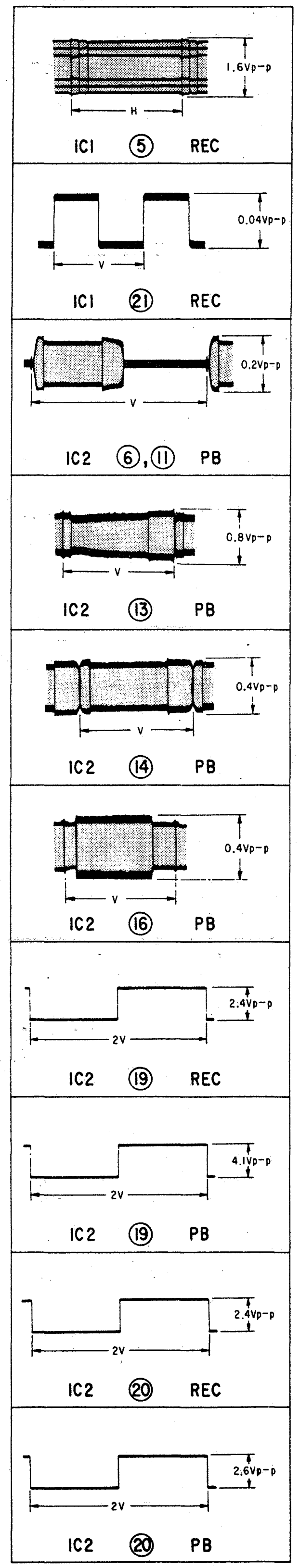
[MIC JACK BOARD] − MI-2 −

MIC CH-1	BRN
Vcc	RED
CH-1 IN	WHT
GND	—
MIC CH-2	PINK
CH-2 IN	WHT
GND	—

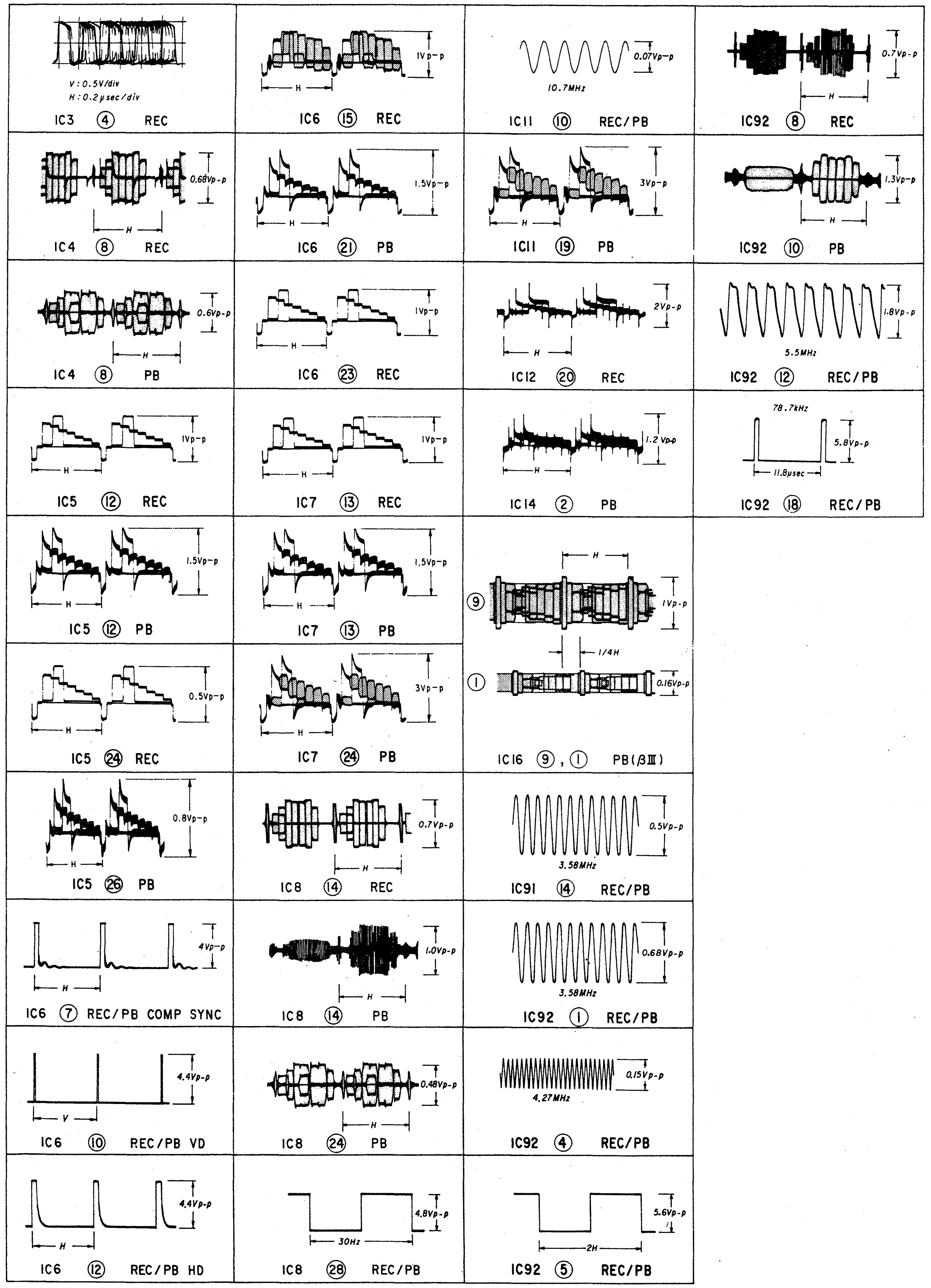

CN1
1-610-051-
J001
MIC CH-1
J002
MIC CH-2
11

When indicating parts by reference number, please include the board name.

RP-10 BOARD

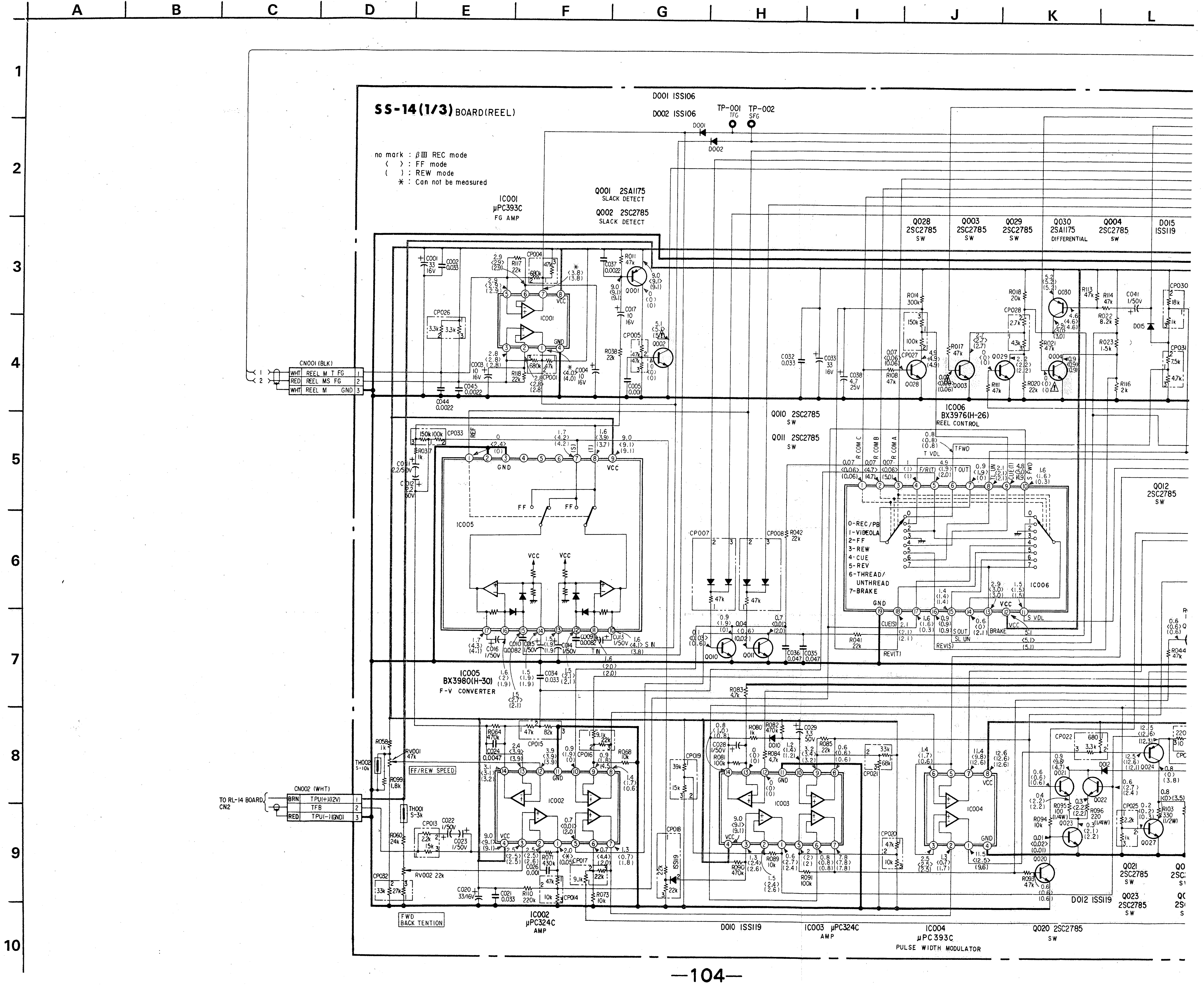


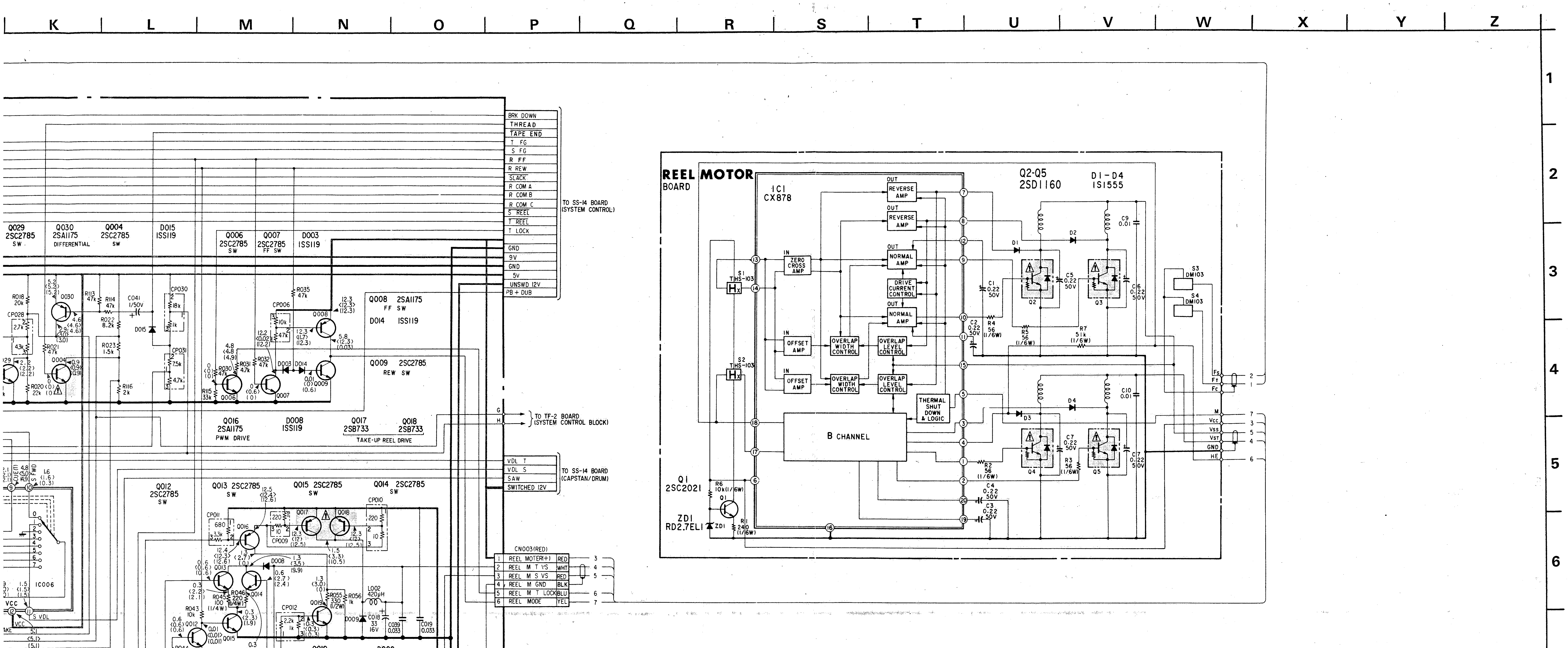
VI−1 BOARD (VIDEO)

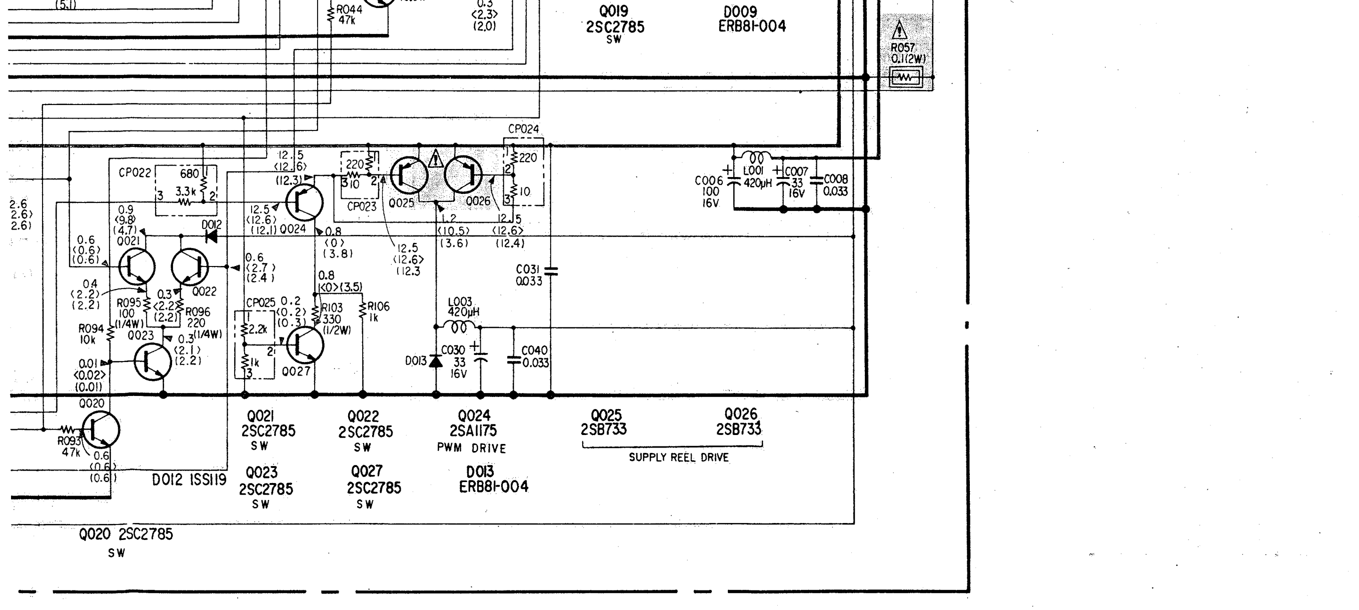


4-4. SS-14 (SERVO, SYSTEM CONTROL), REEL MOTOR BOARDS SCHEMATIC DIAGRAM

– Ref. No. SS-14 BOARD : 3000 series, REEL MOTOR BOARD : 5000 series –


A
B
C
D
E
F
G
H
I
J
K
L
1
2
3
4
5
6
7
8
9
10
SS-14 (1/3) BOARD (REEL)
no mark : βIII REC mode
( ) : FF mode
( ) : REW mode
* : Can not be measured
D001 1SS106
D002 1SS106
TP-001 TFG
TP-002 SFG
IC001 μPC393C FG AMP
Q001 2SA1175 SLACK DETECT
Q002 2SC2785 SLACK DETECT
Q028 2SC2785 SW
Q003 2SC2785 SW
Q029 2SC2785 SW
Q030 2SA1175 DIFFERENTIAL
Q004 2SC2785 SW
D015 1SS119
CN001 (BLK)
WHT REEL M T FG 1
RED REEL M S FG 2
WHT REEL M GND 3
IC006 BX3976(H-26) REEL CONTROL
Q010 2SC2785 SW
Q011 2SC2785 SW
Q012 2SC2785 SW
0-REC/PB
1-VIDEOLA
2-FF
3-REW
4-CUE
5-REV
6-THREAD/ UNTHREAD
7-BRAKE
IC005
IC005 BX3980(H-30) F-V CONVERTER
TO RL-14 BOARD CN2
CN002 (WHT)
BRN TPU(+)(12V) 1
TFB 2
RED TPU(-)(GND) 3
TH002 S-10k
TH001 S-3k
RV001 47k
RV002 22k
FF/REW SPEED
FWD BACK TENTION
IC002 μPC324C AMP
D010 1SS119
IC003 μPC324C AMP
IC004 μPC393C PULSE WIDTH MODULATOR
Q020 2SC2785 SW
D012 1SS119
Q021 2SC2785 SW
Q023 2SC2785 SW
Q024
Q027
Q022


K
L
M
N
O
P
Q
R
S
T
U
V
W
X
Y
Z
1
2
3
4
5
6
BRK DOWN
THREAD
TAPE END
T FG
S FG
R FF
R REW
SLACK
R COM A
R COM B
R COM C
S REEL
T REEL
L LOCK
GND
9V
GND
5V
UNSWD 12V
PB + DUB
TO SS-14 BOARD (SYSTEM CONTROL)
Q029 2SC2785 SW
Q030 2SA1175 DIFFERENTIAL
Q004 2SC2785 SW
D015 1SS119
Q006 2SC2785 SW
Q007 2SC2785 FF SW
D003 1SS119
Q008 2SA1175 FF SW
D014 1SS119
Q009 2SC2785 REW SW
Q016 2SA1175 PWM DRIVE
D008 1SS119
Q017 2SB733
Q018 2SB733
TAKE-UP REEL DRIVE
TO TF-2 BOARD (SYSTEM CONTROL BLOCK)
VDL T
VDL S
SAW
SWITCHED 12V
TO SS-14 BOARD (CAPSTAN/DRUM)
Q012 2SC2785 SW
Q013 2SC2785 SW
Q015 2SC2785 SW
Q014 2SC2785 SW
IC006
CN003(RED)
1 REEL MOTER(+) RED
2 REEL M T VS WHT
3 REEL M S VS RED
4 REEL M GND BLK
5 REEL M T LOCK BLU
6 REEL MODE YEL
Q019 2SC2785 SW
D009 ERB81-004
REEL MOTOR BOARD
IC1 CX878
Q2-Q5 2SD1160
D1-D4 1S1555
REVERSE AMP
NORMAL AMP
DRIVE CURRENT CONTROL
ZERO CROSS AMP
OFFSET AMP
OVERLAP WIDTH CONTROL
OVERLAP LEVEL CONTROL
THERMAL SHUT DOWN & LOGIC
B CHANNEL
S1 THS-103
S2 THS-103
S3 DM103
S4 DM103
Q1 2SC2021
ZD1 RD2.7EL1
R1 240 (1/6W)
R6 10k(1/6W)
R2 56 (1/6W)
R3 56 (1/6W)
R4 56 (1/6W)
R5 56 (1/6W)
R7 51k (1/6W)
C1 0.22 50V
C2 0.22 50V
C3 0.22 50V
C4 0.22 50V
C5 0.22 50V
C6 0.22 50V
C7 0.22 50V
C9 0.01
C10 0.01
Fs
FT
Fc
M
Vcc
Vss
VST
GND
HE


7
8
9
10
R057 0.1(2W)
CP024
L001 420μH
C006 100 16V
C007 33 16V
C008 0.033
L003 420μH
C030 33 16V
C031 0.033
C040 0.033
D013
Q020
Q021 2SC2785 SW
Q022 2SC2785 SW
Q024 2SA1175 PWM DRIVE
Q025 2SB733
Q026 2SB733
SUPPLY REEL DRIVE
Q023 2SC2785 SW
Q027 2SC2785 SW
D013 ERB81-004
D012 1SS119
Q020 2SC2785 SW

Note:

- All resistors are in ohms, 1/8 W unless otherwise noted. kΩ : 1000 Ω, MΩ : 1000 kΩ
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ▭ : nonflammable resistor.
- The red lines show the main voltages.
- All voltages are dc measured with a VOM (10MΩ/V).

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

REEL SERVO

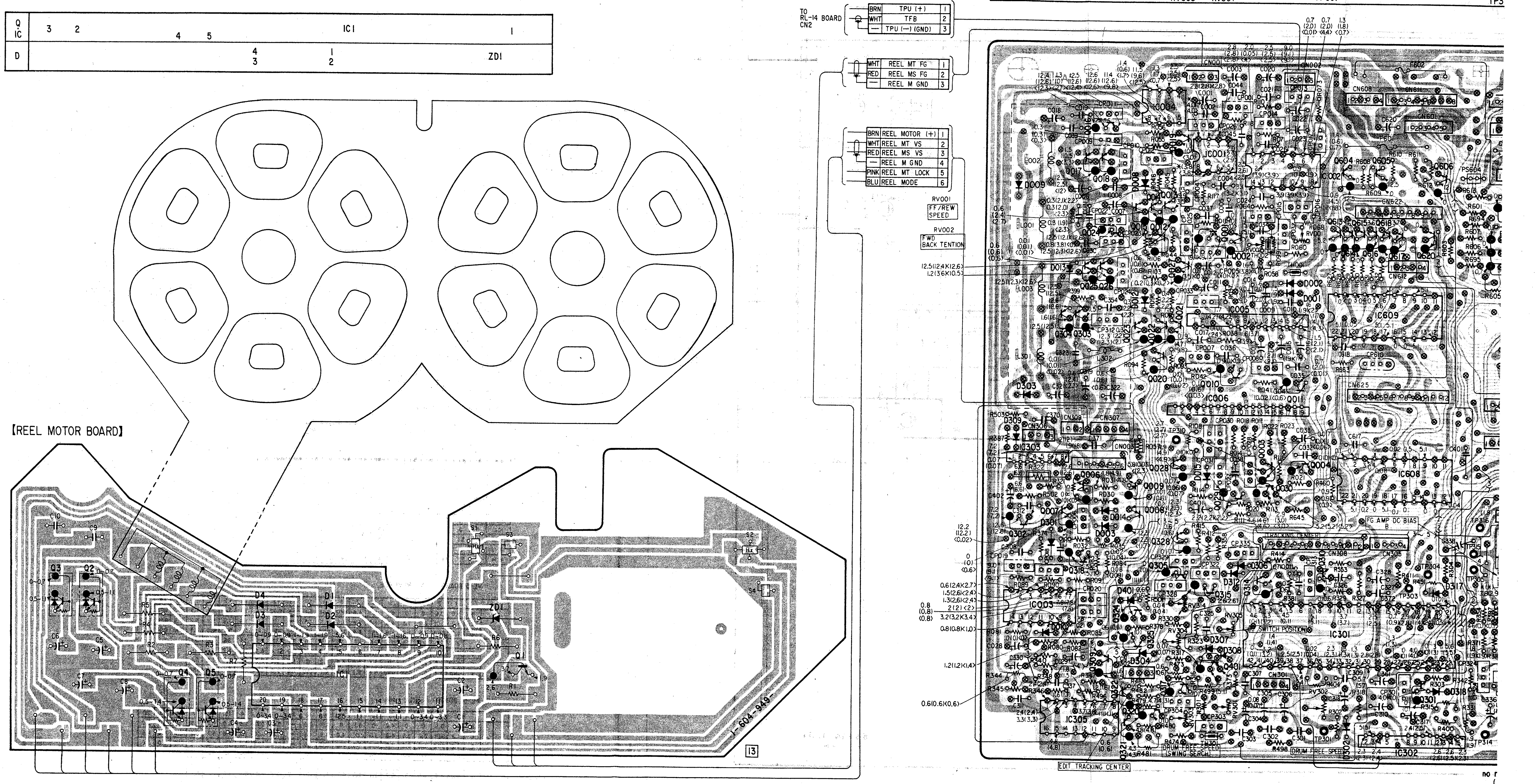
SS-14 (SERVO, SYSTEM CONTROL), REEL MOTOR PRINTED WIRING BOARDS

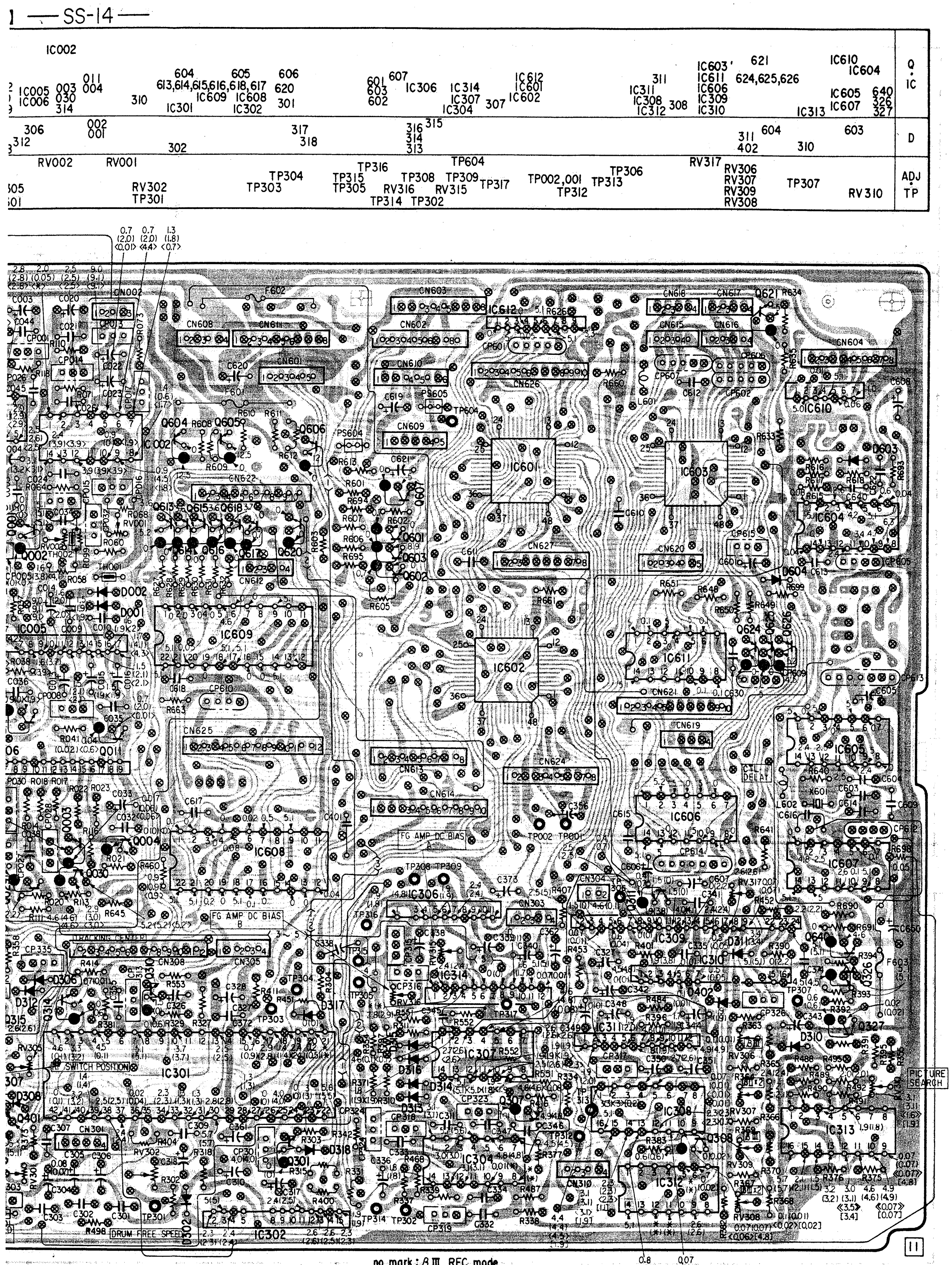
– Ref. No. SS-14 BOARD : 3000 series, REEL MOTOR BOARD : 5000 series –

	B	C	D	E	F	G
Q · IC	3 2	4	5	IC1		1
D			4 3	1 2		ZD1

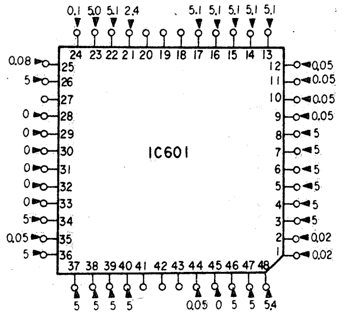
【SERVO/SYSTEM CONTROL BOARD】 —SS-14—

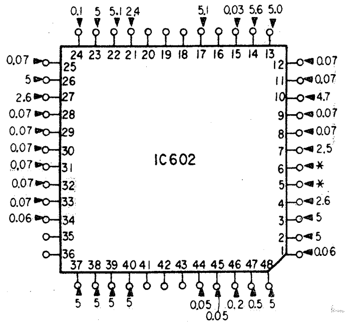
	L	M	N	O	P
Q · IC	016 017 304 303 025 007 006 IC303 318 309 302 IC003 IC305	018 024 026 015 014 013 019 IC004 012 027 023 022 021 001 009 008 020 322 325 028 328 324 321 320 305 315 317 401	IC001 IC002 002 010 029 IC005 IC006 003 030 314 011 004	310 604 613,614,615,616,618,617 IC301 IC609 IC608 IC302 605	606 620 301 601 603 602
D	009 303 309 010 013 301 014 003	012 008 401 304	015 307 308 312 306 002 001	302	317 318
ADJ · TP		TP310 RV314 RV304 RV303	RV305 RV301 RV002 RV001	RV302 TP301 TP303	TP304 TP316 TP315 TP305 TP3

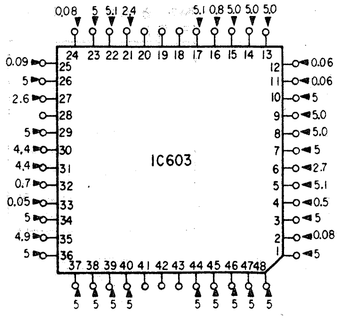

A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
1
2
3
4
5
6
7
8
9
10
【REEL MOTOR BOARD】
Q1
Q2
Q3
Q4
Q5
D1
D2
D3
D4
ZD1
IC1
1-604-949-
13
TO RL-14 BOARD CN2
BRN TPU (+) 1
WHT TFB 2
— TPU (—) (GND) 3
WHT REEL MT FG 1
RED REEL MS FG 2
— REEL M GND 3
BRN REEL MOTOR (+) 1
WHT REEL MT VS 2
RED REEL MS VS 3
— REEL M GND 4
PINK REEL MT LOCK 5
BLU REEL MODE 6
RV001
FF/REW SPEED
RV002
FWD BACK TENTION
CN001
CN002
IC001
IC002
IC003
IC004
IC005
IC006
IC301
IC302
IC305
IC608
IC609
FG AMP DC BIAS B
SWITCH POSITION
EDIT TRACKING CENTER
DRUM FREE SPEED (SWING SEARCH)
DRUM FREE SPEED

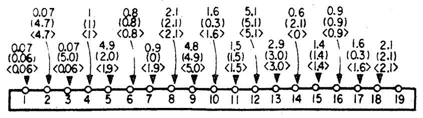

SS-14
IC
D
ADJ
TP
IC601
IC602
IC603
IC604
IC605
IC606
IC607
IC608
IC609
IC611
IC301
IC302
IC304
IC306
IC307
IC308
IC309
IC310
IC311
IC312
IC313
TRACKING CENTER
DRUM FREE SPEED
PICTURE SEARCH
FG AMP DC BIAS

no mark : βIII REC mode
( ) : βII PB mode
〈 〉 : βIII X1 REVERSE mode
《 》 : βIII X2 FWD mode
[ ] : CUE mode
* : Can not be measured







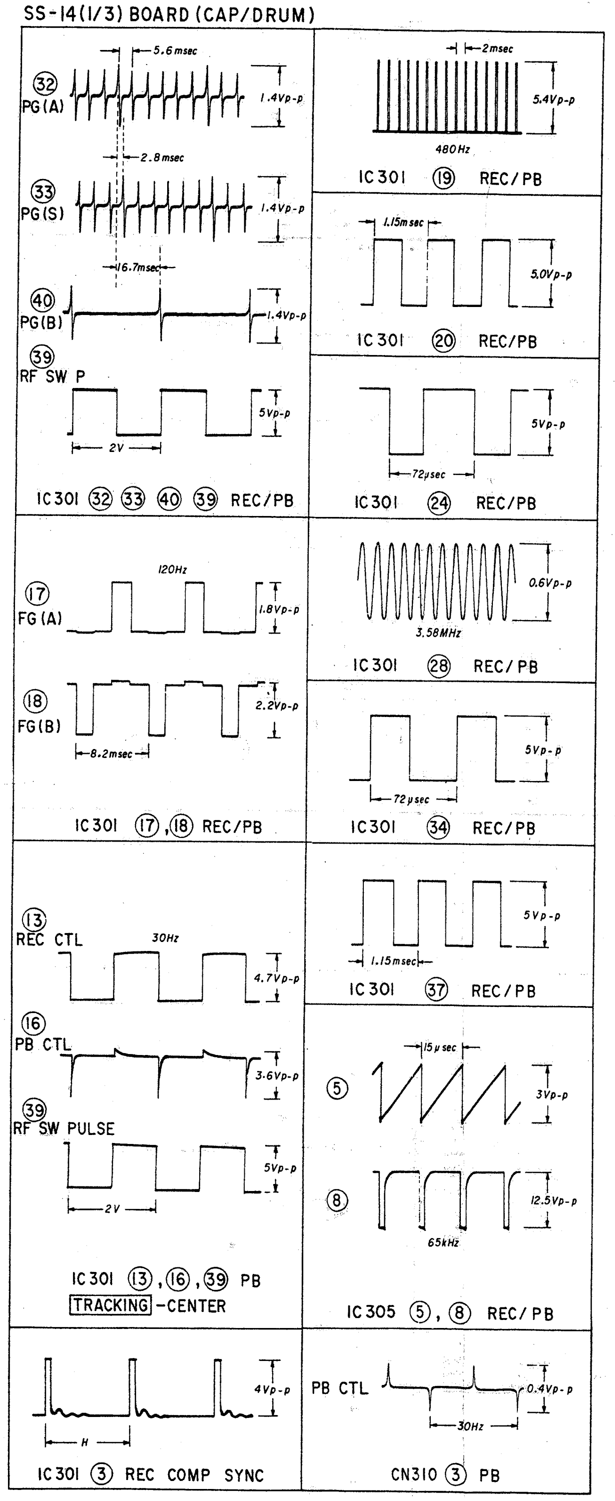


IC006

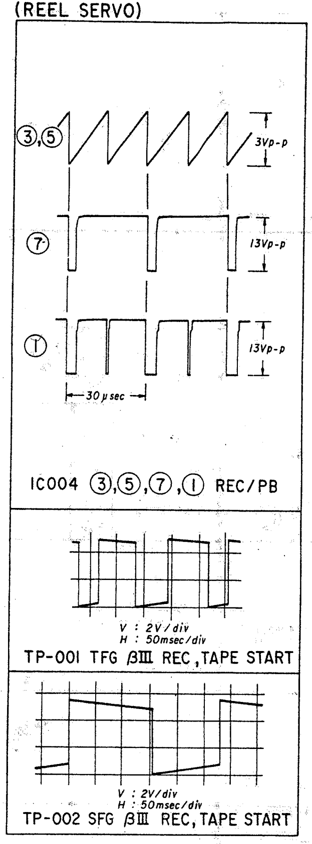
When indicating parts by reference number, please include the board name.

● ⊗ : Through hole.

SS-14(1/3) BOARD (CAP/DRUM)

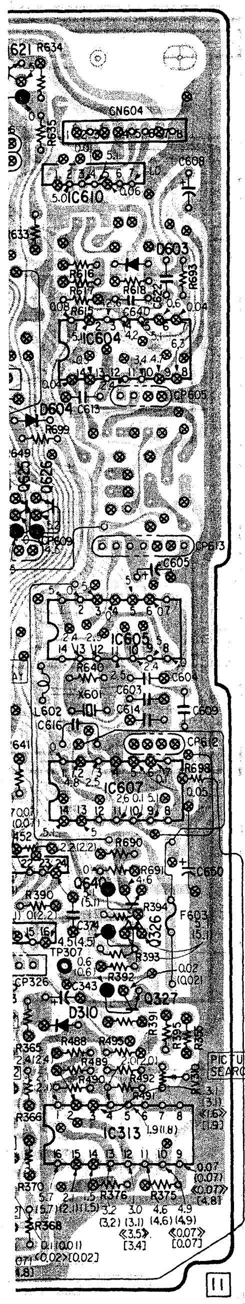


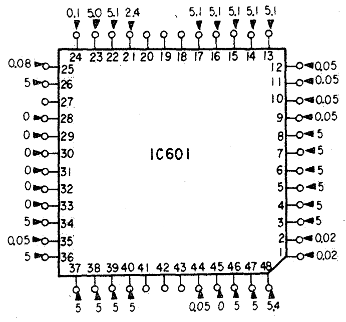
SS-14(1/3) BOARD (REEL SERVO)

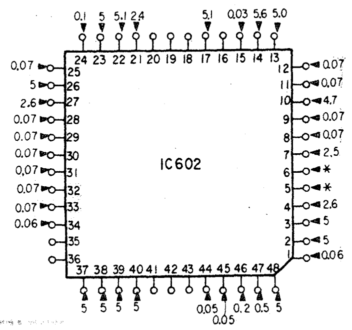


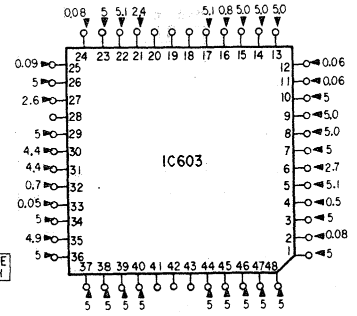
S | T | U | V | W | X | Y | Z | A1 | B1 | C1 | D1

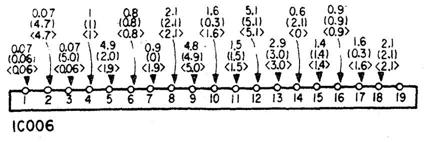
21 625,626	IC610 IC604 IC605 640 IC607 326 IC313 327	Q IC
604 310	603	D
TP307	RV310	ADJ TP


CN604
IC610
D603
IC604
D604
IC605
IC607
TP307
CP326
D310
IC313
PICTURE SEARCH
11

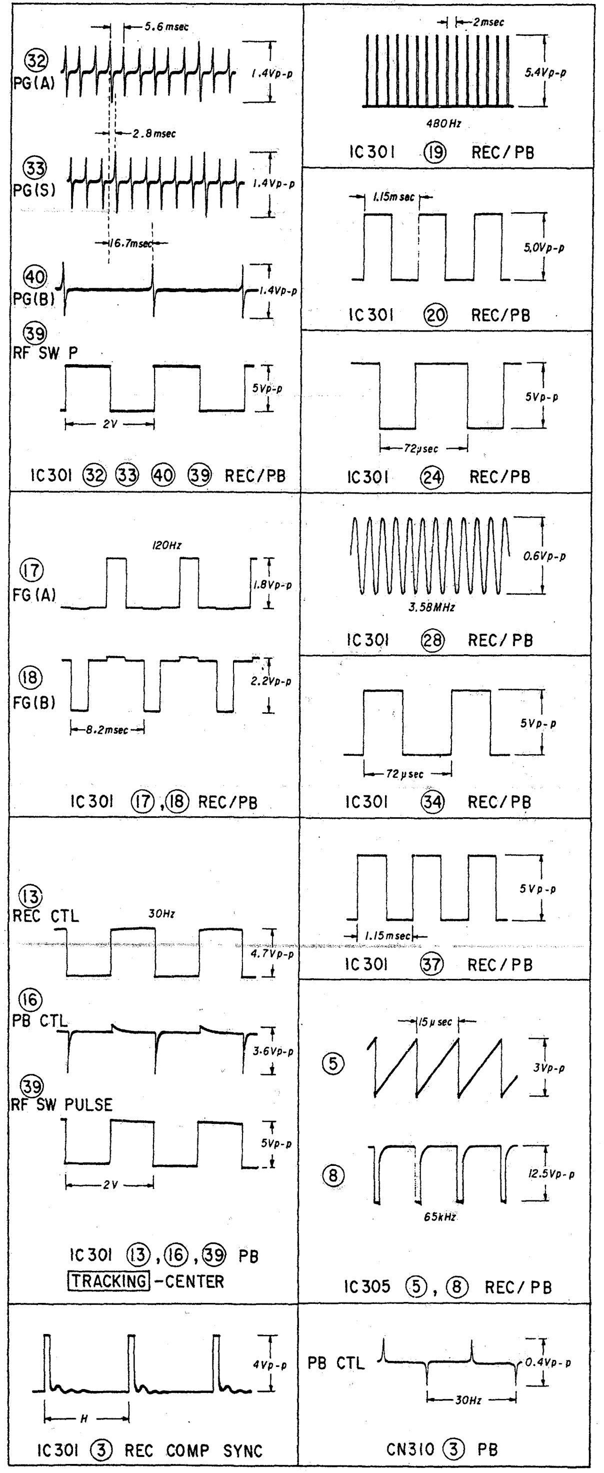




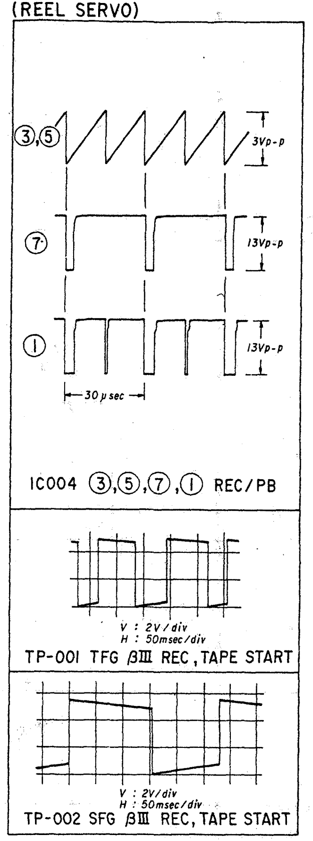




SS-14(1/3) BOARD (CAP/DRUM)



SS-14(1/3) BOARD
(REEL SERVO)



1
2
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4
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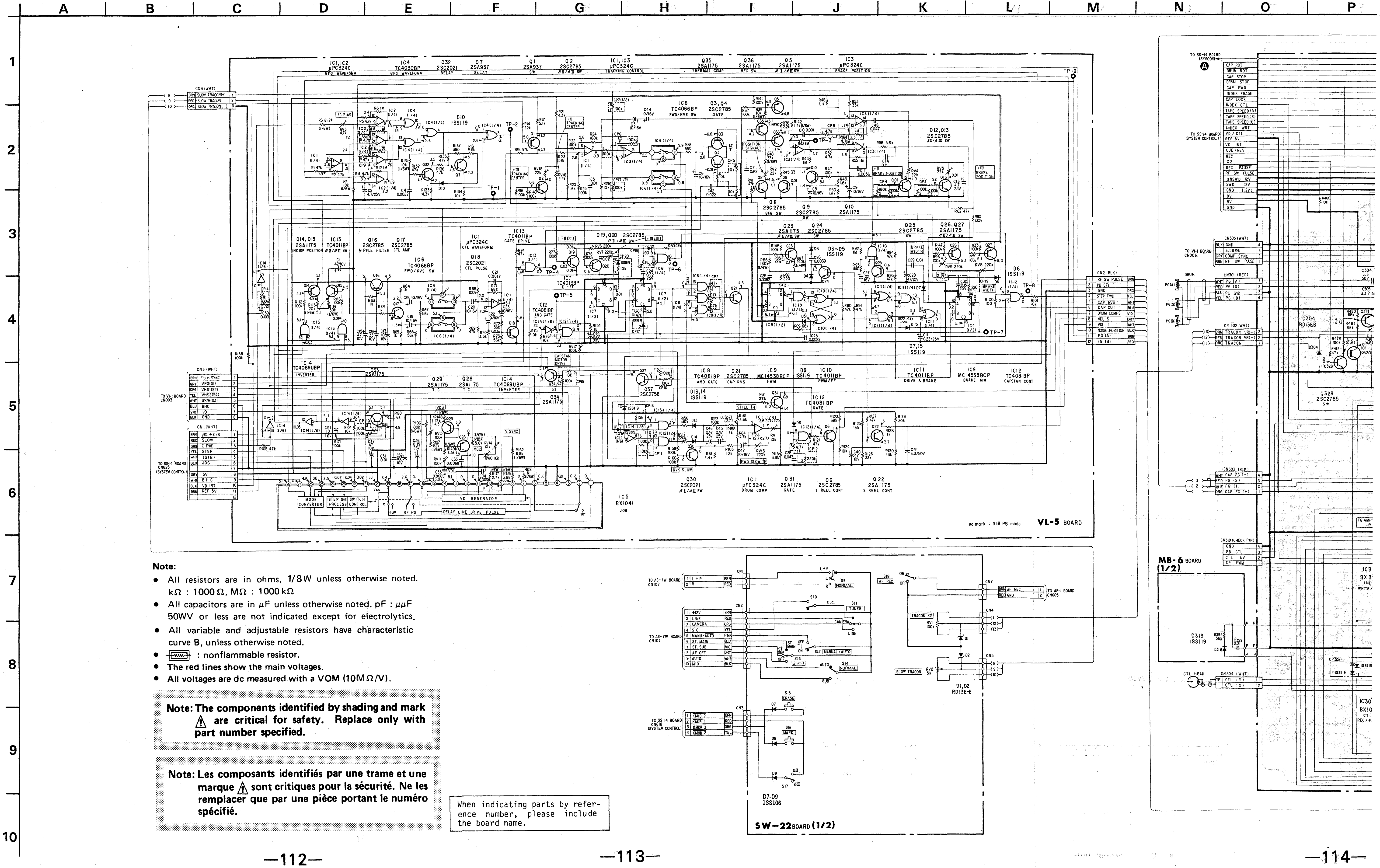
8
9
10

When indicating parts by reference number, please include the board name.

- ⊗ : Through hole.

4-5. SS-14 (SERVO, SYSTEM CONTROL), VL-5 (SLOW SERVO), SW-22 (SWITCH, TRACKING CONTROL), MB-6, CAPSTAN MOTOR BOARDS SCHEMATIC DIAGRAM

– Ref. No. SS-14 BOARD : 3000 series, VL-5 BOARD : 6000 series, SW-22 BOARD : 7500 series, MB-6 BOARD : 15000 series, CAPSTAN MOTOR BOARD : 5700 series –


A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
1
2
3
4
5
6
7
8
9
10
VL-5 BOARD
no mark : βIII PB mode
SW-22BOARD (1/2)
MB-6 BOARD (1/2)
TO SS-14 BOARD (SYSCON)
TO SS-14 BOARD (SYSTEM CONTROL)
TO VI-1 BOARD CN003
TO SS-14 BOARD CN625 (SYSTEM CONTROL)
TO AS-7W BOARD CN107
TO AS-7W BOARD CN101
TO SS-14 BOARD CN618 (SYSTEM CONTROL)
TO AF-1 BOARD CN605
TO VI-1 BOARD CN006
VD GENERATOR
DELAY LINE DRIVE PULSE
MODE CONVERTER
STEP SIG PROCESS
SWITCH CONTROL
IC5 BX1041 JOG
D7-D9 1SS106
D1,D2 RD13E-B
D304 RD13EB
D319 1SS119
Q328 2SC2785 SW
CTL HEAD
CN304 (WHT)
CN303 (BLK)
CN310 (CHECK PIN)
CN302 (WHT)
CN301 (RED)
CN305 (WHT)
CN2 (BLK)
CN3 (WHT)
CN1 (WHT)
CN4 (WHT)
TP-1
TP-2
TP-3
TP-4
TP-5
TP-6
TP-7
TP-8
TP-9

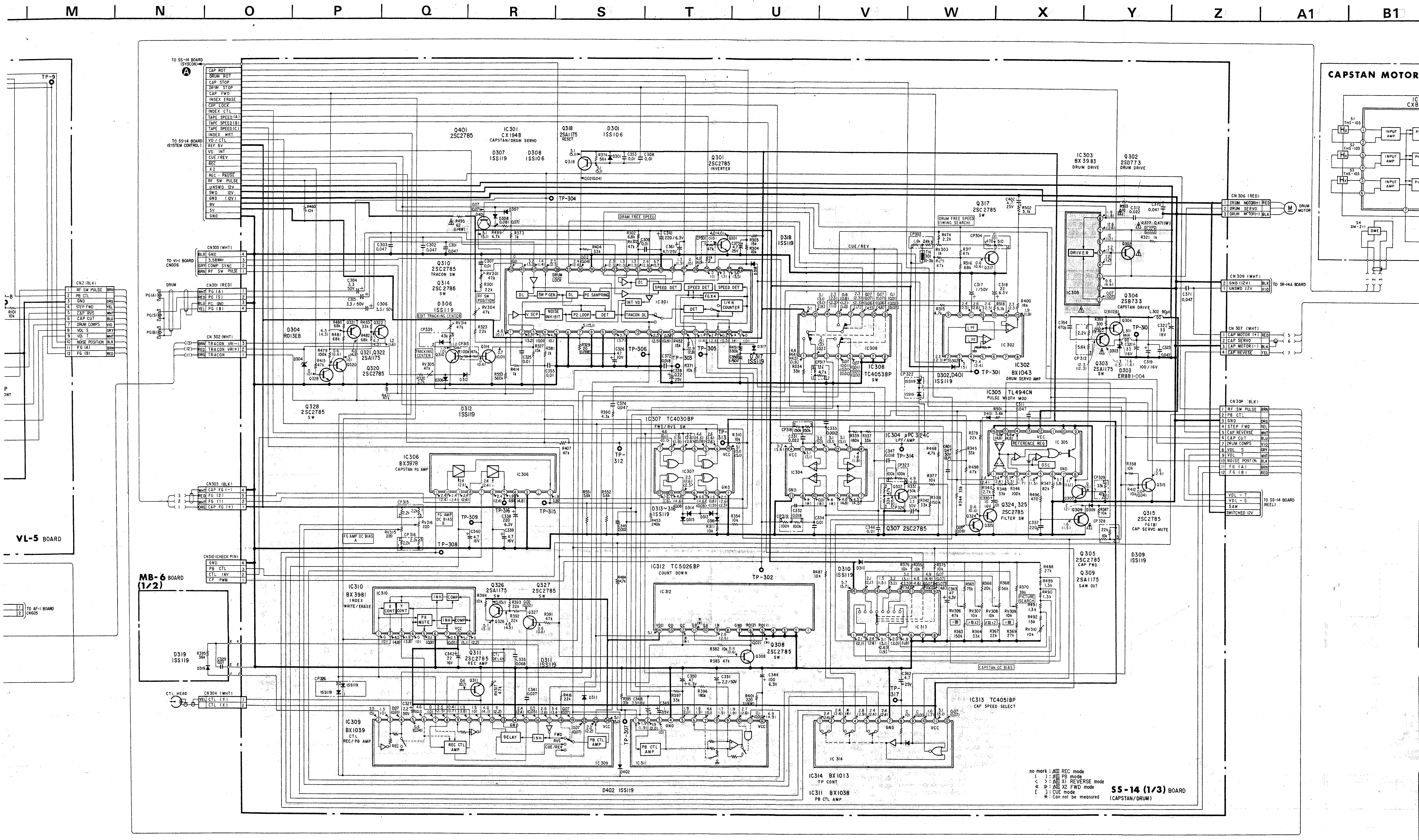
Note:

- All resistors are in ohms, 1/8W unless otherwise noted. kΩ : 1000Ω, MΩ : 1000kΩ
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ▭ : nonflammable resistor.
- The red lines show the main voltages.
- All voltages are dc measured with a VOM (10MΩ/V).

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.


M
N
O
P
Q
R
S
T
U
V
W
X
Y
Z
A1
B1
TO SS-14 BOARD (SYSCON)
TO SS-14 BOARD (SYSTEM CONTROL)
CAP ROT
DRUM ROT
CAP STOP
DRUM STOP
CAP FWD
INDEX ERASE
CAP LOCK
INDEX CTL
TAPE SPEED (A)
TAPE SPEED (B)
TAPE SPEED (C)
INDEX WRT
VD / CTL
REF 5V
VD INT
CUE / REV
REC
X 2
REC · PAUSE
RF SW PULSE
UNSWD 12V
SWD 12V
GND (12V)
9V
5V
GND
TO VI-I BOARD CN006
CN305 (WHT)
CN301 (RED)
CN 302 (WHT)
CN303 (BLK)
CN310 (CHECK PIN)
CN304 (WHT)
CTL HEAD
DRUM
VL-5 BOARD
MB-6 BOARD (1/2)
TO AF-1 BOARD CN605
Q401 2SC2785
IC301 CX1948 CAPSTAN/DRUM SERVO
Q318 2SA1175 RESET
D301 1SS106
D307 1SS119
D308 1SS106
Q301 2SC2785 INVERTER
Q310 2SC2785 TRACON SW
Q314 2SC2786 SW
D306 1SS119
D304 RD13EB
Q321,Q322 2SA1175
Q320 2SC2785
Q328 2SC2785 SW
D312 1SS119
IC306 BX3978 CAPSTAN FG AMP
IC307 TC4030BP FWD/RVS SW
D313~316 1SS119
IC308 TC4053BP SW
IC304 μPC324C LPF/AMP
Q307 2SC2785
IC303 BX3983 DRUM DRIVE
Q302 2SD773 DRUM DRIVE
Q317 2SC2785 SW
IC302 BX1043 DRUM SERVO AMP
D302,D401 1SS119
Q304 2SB733 CAPSTAN DRIVE
Q303 2SA1175 SW
D303 ERB81-004
IC305 TL494CN PULSE WIDTH MOD
Q324, 325 2SC2785 FILTER SW
Q315 2SC2785 FG(B) CAP SERVO MUTE
Q305 2SC2785 CAP FWD
Q309 2SA1175 SAW OUT
D309 1SS119
IC310 BX3981 INDEX WRITE/ERASE
Q326 2SA1175 SW
Q327 2SC2785
Q311 2SC2785 REC AMP
D311 1SS119
IC312 TC5026BP COUNT DOWN
Q308 2SC2785 SW
D310 1SS119
IC313 TC4051BP CAP SPEED SELECT
IC309 BX1039 CTL REC/PB AMP
IC314 BX1013 TP CONT
IC311 BX1038 PB CTL AMP
D319 1SS119
D402 1SS119
CN306 (RED)
CN309 (WHT)
CN307 (WHT)
CN308 (BLK)
TO SR-14A BOARD
TO SS-14 BOARD (REEL)
DRUM MOTOR
CAPSTAN MOTOR BOARD
IC1 CX877
INPUT AMP
PHASE SW
3 PHASE 120° LOGIC
DRIVER
TP-301
TP-302
TP-303
TP-304
TP-305
TP-306
TP-307
TP-308
TP-309
TP-312
TP-313
TP-314
TP-315
TP-316
TP-317
FG AMP DC BIAS A
FG AMP DC BIAS B
CAPSTAN DC BIAS
EDIT TRACKING CENTER
TRACKING CENTER
DRUM FREE SPEED
DRUM FREE SPEED (SWING SEARCH)
PICTURE SEARCH
REFERENCE REG
OSC
CUE/REV
SPEED DET
DET
1/4 N COUNTER
INT VD
TRACON DL
P2 LOOP
NOISE INHIBIT
V SEP
SW P GEN
PG SAMPLING
REC CTL AMP
PB CTL AMP
DELAY
INH
COMP
PB MUTE

no mark : βⅢ REC mode
( ) : βⅢ PB mode
< > : βⅢ X1 REVERSE mode
« » : βⅢ X2 FWD mode
[ ] : CUE mode
✳ : Can not be measured

SS-14 (1/3) BOARD
(CAPSTAN/DRUM)

VL-5 BOARD

	1	2
IC 1	2.7	2.7
IC 2	2.0	2.4
IC 3	1.5	1.4
IC 4	2.6	2.4
IC 5	0	0.2
IC 6	2.2	2 2
IC 7	0	5.1
IC 8	5.0	5.1
IC 9	GND	2.1
IC 10	4.7	0.1
IC 11	0	4.7
IC 12	0	5.1
IC 13	0.6	0
IC 14	5.1	0

VL-5 BOARD ST

	1	2
IC 1	2.7	2.7
IC 2	0.02	2.8
IC 3	1.5	1.5
IC 4	5.1	4.7
IC 5	0	0.2
IC 6	2.2	0.8
IC 7	0	5.1
IC 8	0.01	0
IC 9	GND	5.1
IC 10	0	0
IC 11	0	0
IC 12	0	5.1
IC 13	4.7	0
IC 14	0	5.1

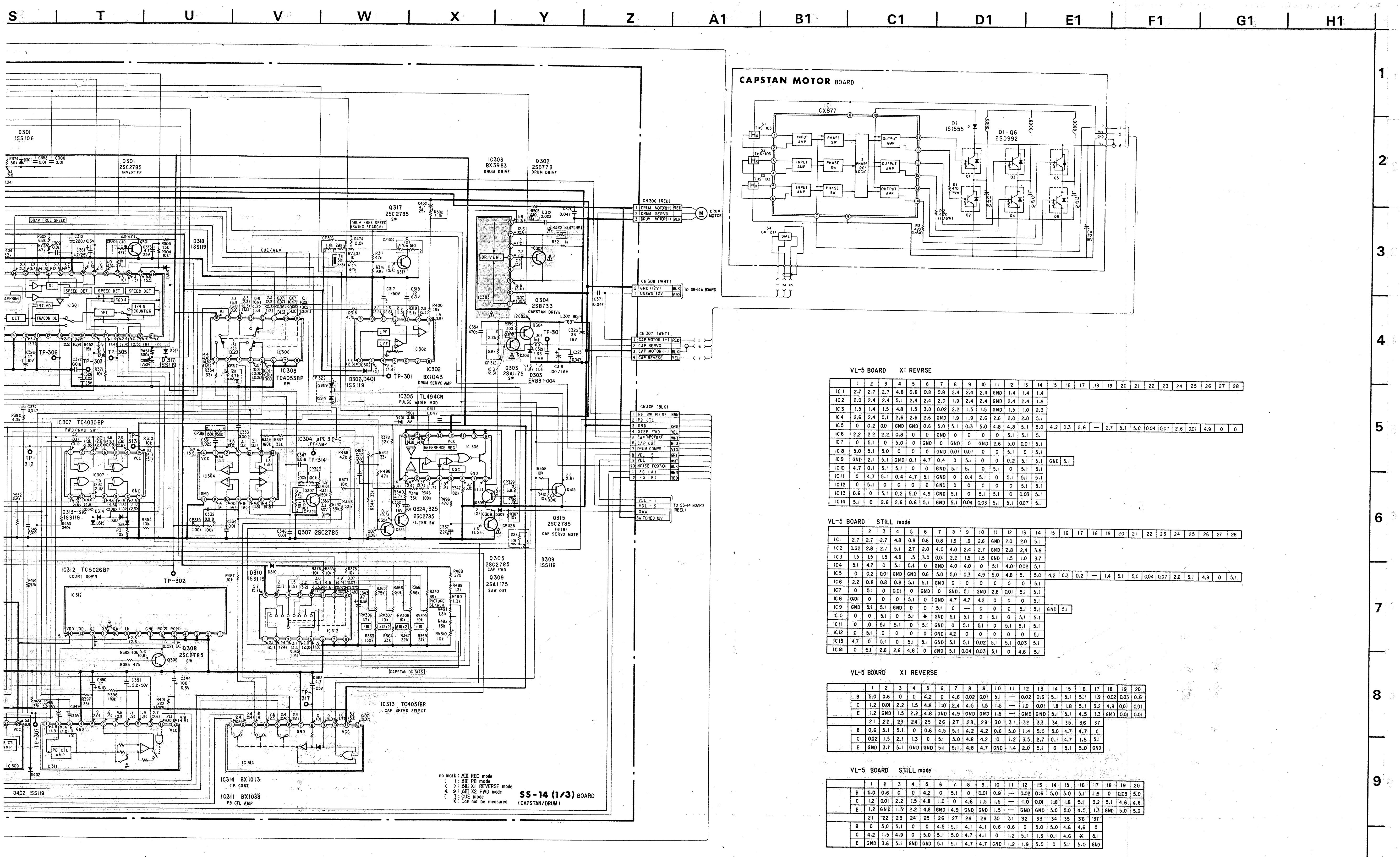
VL-5 BOAR

		1
	B	5.0
	C	1.2
	E	1.2
		21
	B	0.6
	C	0.02
	E	GND

VL-5 BOA

		1
	B	5.0
	C	1.2
	E	1.2
		21
	B	0
	C	4.2
	E	GND

CAPSTAN DRUM SERVO　CAPSTAN DRUM SERVO


S
T
U
V
W
X
Y
Z
A1
B1
C1
D1
E1
F1
G1
H1
1
2
3
4
5
6
7
8
9
10
CAPSTAN MOTOR BOARD
IC1 CX877
INPUT AMP
PHASE SW
3 PHASE 120° LOGIC
OUTPUT AMP
D1 1S1555
Q1-Q6 2SD992
DRUM MOTOR
CN306 (RED)
DRUM MOTOR(+)
DRUM SERVO
DRUM MOTOR(-)
CN309 (WHT)
TO SR-144 BOARD
CN307 (WHT)
CAP MOTOR (+)
CAP SERVO
CAP MOTOR (-)
CAP REVERSE
CN308 (BLK)
RF SW PULSE
PB CTL
GND
STEP FWD
CAP REVERSE
CAP CUT
DRUM COMPS
VDL S
VDL T
NOISE POSIT.
FG (A)
FG (B)
TO SS-14 BOARD (REEL)
SWITCHED 12V
D301 1SS106
Q301 2SC2785 INVERTER
IC303 BX3983 DRUM DRIVE
Q302 2SD773 DRUM DRIVE
Q317 2SC2785 SW
DRUM FREE SPEED
DRUM FREE SPEED (SWING SEARCH)
D318 1SS119
CUE/REV
DRIVER
SPEED DET
FG X4
1/4 N COUNTER
INT. VD
TRACON DL
DET
IC301
Q304 2SB733 CAPSTAN DRIVE
TP-310
TP-306
TP-303
TP-305
D317 1SS119
IC308 TC4053BP SW
IC302 BX1043 DRUM SERVO AMP
D302, D401 1SS119
TP-301
Q303 2SA1175 SW
D303 ERB81-004
IC307 TC4030BP FWD/RVS SW
TP-312
TP-313
D313~316 1SS119
IC304 μPC 324C LPF/AMP
TP-314
Q307 2SC2785
IC305 TL494CN PULSE WIDTH MOD
REFERENCE REG
OSC
Q324, 325 2SC2785 FILTER SW
Q315 2SC2785 FG(B) CAP SERVO MUTE
Q305 2SC2785 CAP FWD
Q309 2SA1175 SAW OUT
D309 1SS119
IC312 TC5026BP COUNT DOWN
TP-302
D310 1SS119
IC313
PICTURE SEARCH
Q308 2SC2785 SW
CAPSTAN DC BIAS
TP-317
IC313 TC4051BP CAP SPEED SELECT
PB CTL AMP
IC311
IC309
TP-307
D402
IC314
IC314 BX1013 TP CONT
IC311 BX1038 PB CTL AMP
D402 1SS119
no mark : βIII REC mode
( ) : βIII PB mode
< > : βIII X1 REVERSE mode
« » : βIII X2 FWD mode
[ ] : CUE mode
* : Can not be measured
SS-14 (1/3) BOARD
(CAPSTAN/DRUM)

VL-5 BOARD　X1 REVRSE

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
IC1	2.7	2.7	2.7	4.8	0.8	0.8	0.8	2.4	2.4	2.4	GND	1.4	1.4	1.4														
IC2	2.0	2.4	2.4	5.1	2.4	2.4	2.0	1.9	2.4	2.4	GND	2.4	2.4	1.9														
IC3	1.5	1.4	1.5	4.8	1.5	3.0	0.02	2.2	1.5	1.5	GND	1.5	1.0	2.3														
IC4	2.6	2.4	0.1	2.6	2.6	2.6	GND	1.9	1.9	2.6	2.6	2.0	2.0	5.1														
IC5	0	0.2	0.01	GND	GND	0.6	5.0	5.1	0.3	5.0	4.8	4.8	5.1	5.0	4.2	0.3	2.6	—	2.7	5.1	5.0	0.04	0.07	2.6	0.01	4.9	0	0
IC6	2.2	2.2	2.2	0.8	0	0	GND	0	0	0	0	5.1	5.1	5.1														
IC7	0	5.1	0	5.0	0	GND	0	GND	0	GND	2.6	5.0	0.01	5.1														
IC8	5.0	5.1	5.0	0	0	0	GND	0.01	0.01	0	0	5.1	0	5.1														
IC9	GND	2.1	5.1	GND	0.1	4.7	0.4	0	5.1	0	0	0.2	5.1	5.1	GND	5.1												
IC10	4.7	0.1	5.1	5.1	0	0	GND	5.1	5.1	0	5.1	0	5.1	5.1														
IC11	0	4.7	5.1	0.4	4.7	5.1	GND	0	0.4	5.1	0	5.1	5.1	5.1														
IC12	0	5.1	0	0	0	0	GND	0	0	0	0	0	5.1	5.1														
IC13	0.6	0	5.1	0.2	5.0	4.9	GND	5.1	0	5.1	5.1	0	0.03	5.1														
IC14	5.1	0	2.6	2.6	0.6	5.1	GND	5.1	0.04	0.03	5.1	5.1	0.07	5.1														

VL-5 BOARD　STILL mode

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
IC1	2.7	2.7	2.7	4.8	0.8	0.8	0.8	1.9	1.9	2.6	GND	2.0	2.0	5.1														
IC2	0.02	2.8	2.7	5.1	2.7	2.0	4.0	4.0	2.4	2.7	GND	2.8	2.4	3.9														
IC3	1.5	1.5	1.5	4.8	1.5	3.0	0.01	2.2	1.5	1.5	GND	1.5	1.0	3.7														
IC4	5.1	4.7	0	5.1	5.1	0	GND	4.0	4.0	0	5.1	4.0	0.02	5.1														
IC5	0	0.2	0.01	GND	GND	0.6	5.0	5.0	0.3	4.9	5.0	4.8	5.1	5.0	4.2	0.3	0.2	—	1.4	5.1	5.0	0.04	0.07	2.6	5.1	4.9	0	5.1
IC6	2.2	0.8	0.8	0.8	5.1	5.1	GND	0	0	0	0	0	0	5.1														
IC7	0	5.1	0	0.01	0	GND	0	GND	5.1	GND	2.6	0.01	5.1	5.1														
IC8	0.01	0	0	0	5.1	0	GND	4.7	4.7	4.2	0	0	0	5.1														
IC9	GND	5.1	5.1	GND	0	0	5.1	0	—	0	0	0	5.1	5.1	GND	5.1												
IC10	0	0	5.1	0	5.1	*	GND	5.1	5.1	0	5.1	0	5.1	5.1														
IC11	0	0	5.1	5.1	0	5.1	GND	0	5.1	5.1	0	5.1	5.1	5.1														
IC12	0	5.1	0	0	0	0	GND	4.2	0	0	0	0	0	5.1														
IC13	4.7	0	5.1	0	5.1	5.1	GND	5.1	5.1	0.02	5.1	5.1	0.03	5.1														
IC14	0	5.1	2.6	2.6	4.8	0	GND	5.1	0.04	0.03	5.1	0	4.6	5.1														

VL-5 BOARD　X1 REVERSE

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	B	5.0	0.6	0	0	4.2	0	4.6	0.02	0.01	5.1	—	0.02	0.6	5.1	5.1	5.1	1.9	-0.02	0.03	0.6
	C	1.2	0.01	2.2	1.5	4.8	1.0	2.4	4.5	1.5	1.5	—	1.0	0.01	1.8	1.8	5.1	3.2	4.9	0.01	0.01
	E	1.2	GND	1.5	2.2	4.8	GND	4.9	GND	GND	1.5	—	GND	GND	5.1	5.1	4.5	1.3	GND	0.01	0.01
		21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37			
	B	0.6	5.1	5.1	0	0.6	4.5	5.1	4.2	4.2	0.6	5.0	1.4	5.0	5.0	4.7	4.7	0			
	C	0.02	1.5	2.1	1.3	0	5.1	5.0	4.8	4.2	0	1.2	3.5	2.7	0.1	4.7	1.5	5.1			
	E	GND	3.7	5.1	GND	GND	5.1	5.1	4.8	4.7	GND	1.4	2.0	5.1	0	5.1	5.0	GND			

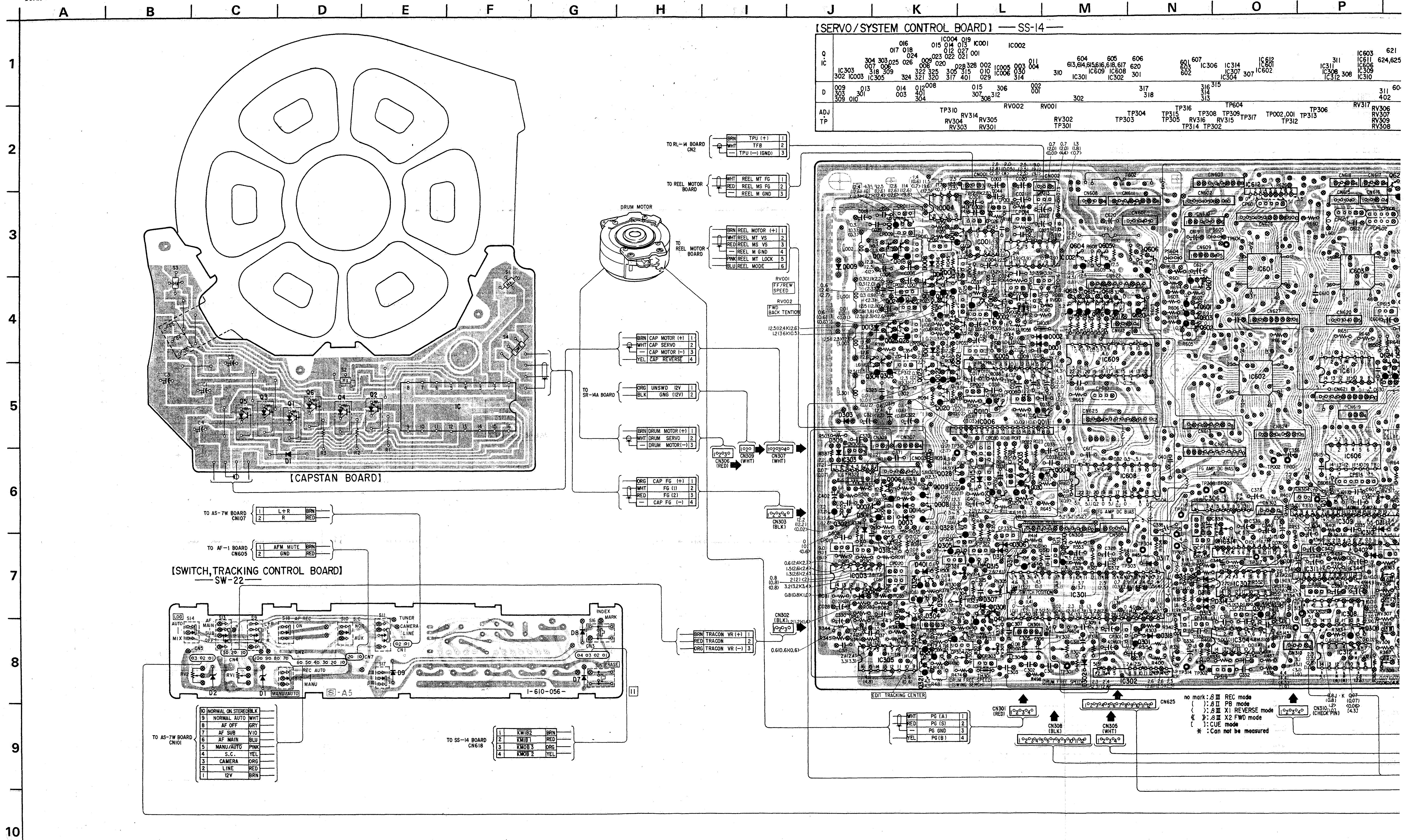
VL-5 BOARD　STILL mode

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	B	5.0	0.6	0	0	4.2	0	5.1	0	0.01	0.9	—	0.02	0.6	5.0	5.0	5.1	1.9	0	0.03	5.0
	C	1.2	0.01	2.2	1.5	4.8	1.0	0	4.6	1.5	1.5	—	1.0	0.01	1.8	1.8	5.1	3.2	5.1	4.6	4.6
	E	1.2	GND	1.5	2.2	4.8	GND	4.9	GND	GND	1.5	—	GND	GND	5.0	5.0	4.5	1.3	GND	5.0	5.0
		21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37			
	B	0	5.0	5.1	0	0	4.5	5.1	4.1	4.1	0.6	0.6	0	5.0	5.0	4.6	4.6	0			
	C	4.2	1.5	4.9	0	5.0	5.1	5.0	4.7	4.1	0	1.2	5.1	1.3	0.1	4.6	*	5.1			
	E	GND	3.6	5.1	GND	GND	5.1	5.1	4.7	4.7	GND	1.2	1.9	5.0	0	5.1	5.0	GND			

CAPSTAN DRUM SERVO CAPSTAN DRUM SERVO

SS-14 (SERVO, SYSTEM CONTROL), VL-5 (SLOW SERVO), SW-22 (SWITCH, TRACKING CONTROL), MB-6, CAPSTAN MOTOR PRINTED WIRING BOARDS

– Ref. No. SS-14 BOARD : 3000 series, VL-5 BOARD : 6000 series, SW-22 BOARD : 7500 series, MB-6 BOARD : 15000 series, CAPSTAN MOTOR BOARD : 5700 series –


A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
1
2
3
4
5
6
7
8
9
10
[CAPSTAN BOARD]
DRUM MOTOR
TO RL-14 BOARD CN2
TPU (+)
TFB
TPU (–) (GND)
TO REEL MOTOR BOARD
REEL MT FG
REEL MS FG
REEL M GND
REEL MOTOR (+)
REEL MT VS
REEL MS VS
REEL M GND
REEL MT LOCK
REEL MODE
RV001 FF/REW SPEED
RV002 FWD BACK TENTION
CAP MOTOR (+)
CAP SERVO
CAP MOTOR (–)
CAP REVERSE
TO SR-14A BOARD
UNSWD 12V
GNG (12V)
DRUM MOTOR (+)
DRUM SERVO
DRUM MOTOR (–)
CN306 (RED)
CN309 (WHT)
CN307 (WHT)
CAP FG (+)
FG (1)
FG (2)
CAP FG (–)
CN303 (BLK)
TO AS-7W BOARD CN107
L+R
R
TO AF-1 BOARD CN605
AFM MUTE
GND
[SWITCH, TRACKING CONTROL BOARD] —SW-22—
INDEX MARK
TUNER
CAMERA
LINE
AF REC
S.C.
NOR
AUX
MANU/AUTO
ERASE
1-610-056-
CN302 (BLK)
TRACON VR (+)
TRACON
TRACON VR (–)
TO AS-7W BOARD CN101
NORMAL ON STEREO
NORMAL AUTO
AF OFF
AF SUB
AF MAIN
MANU/AUTO
S.C.
CAMERA
LINE
12V
TO SS-14 BOARD CN618
KMIB2
KMIB1
KMOB3
KMOB2
PG (A)
PG (S)
PG GND
PG (B)
CN301 (RED)
CN308 (BLK)
CN305 (WHT)
CN625
CN310 (CHECK PIN)
EDIT TRACKING CENTER
DRUM FREE SPEED (SWING SEARCH)
[SERVO/SYSTEM CONTROL BOARD] —SS-14—

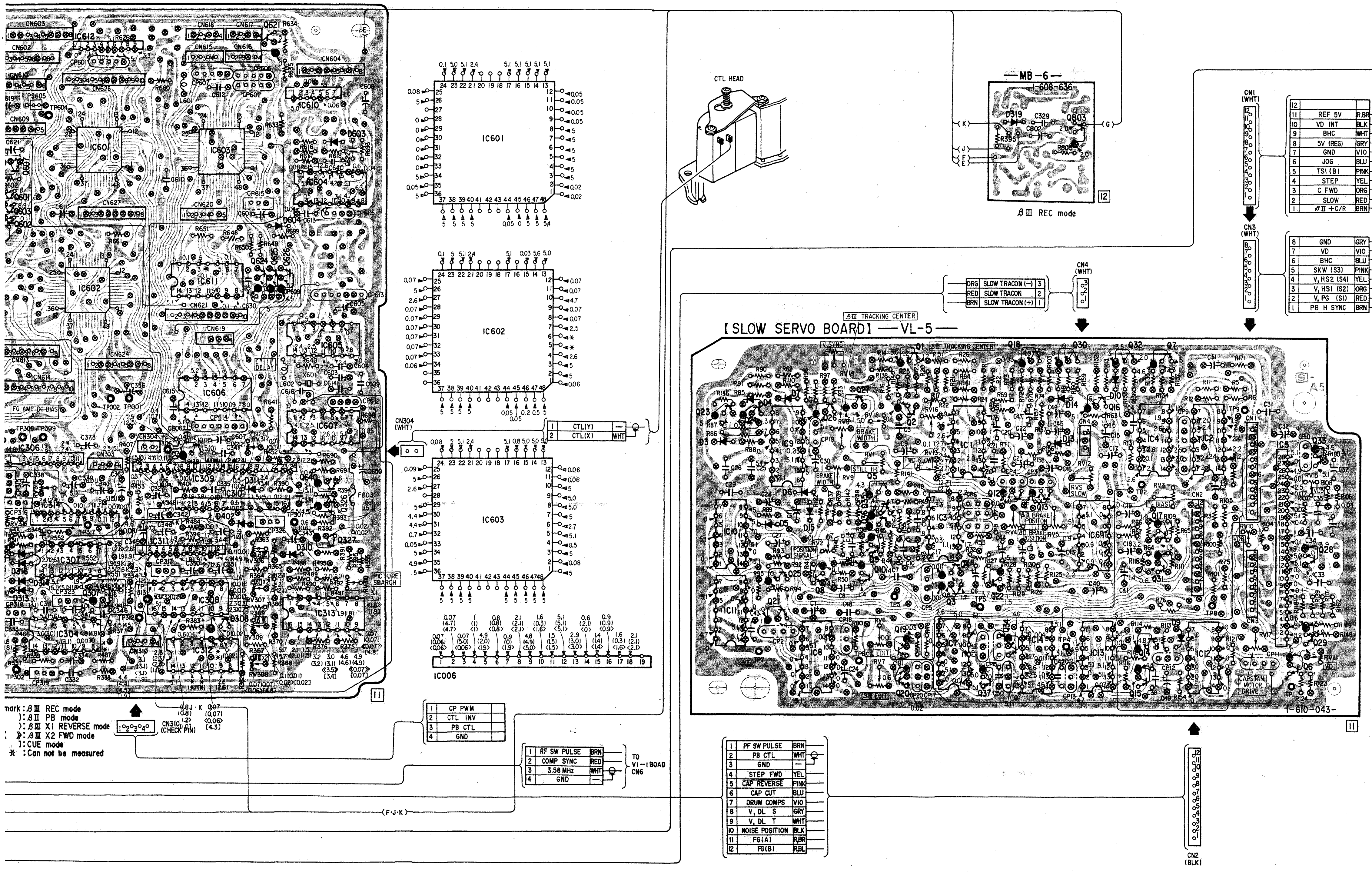
[SERVO/SYSTEM CONTROL BOARD] —SS-14—

	J	K	L	M	N	O	P
Q・IC	IC303, 302, IC003, 304, 007	016, 017, 018, 024, 303, 025, 026, 006, 318, 309, IC305, 324, 009, 008, 322, 321, 015, 014, IC004, 012, 023, 022, 020, 325, 320, 305, 317	019, 013, 027, 021, IC001, 001, 028, 328, 315, 401, 002, 010, 029, IC002, IC005, IC006, 003, 030, 314, 011, 004	310, 604, 613,614,615,616,618,617, IC301, 605, IC609, IC608, IC302	606, 620, 301, 601, 603, 602, 607, IC306	IC314, IC307, IC304, 307, IC612, IC601, IC602	311, IC311, IC308, IC312, 308, IC603, IC611, IC606, IC309, IC310, 621, 624,625
D	009, 303, 309, 010, 013, 301	014, 003, 012, 401, 304, 008	015, 307, 308, 312, 306, 002, 001	302	317, 318, 316, 314, 313, 315		311, 402
ADJ・TP		TP310, RV304, RV303	RV314, RV305, RV301, RV002	RV001, RV302, TP301, TP303	TP304, TP315, TP305, TP316, TP314, RV316, TP308, TP302	TP604, TP309, RV315, TP317, TP002,001, TP312	TP313, TP306, RV317, RV306, RV307, RV309, RV308

no mark : β III REC mode
( ) : β II PB mode
〈 〉 : β III X1 REVERSE mode
《 》 : β III X2 FWD mode
[ ] : CUE mode
✳ : Can not be measured

O | P | Q | R | S | T | U | V | W | X | Y | Z | A1 | B1 | C1 | D1

07 IC306 IC314 IC307 307 IC304 IC612 IC601 IC602 311 IC311 IC308 308 IC312 IC603 IC611 IC606 IC309 IC310 621 624,625,626 IC313 IC610 IC604 IC605 IC607 640 326 327	Q · IC
316 315 314 313 311 402 604 310 603	D
TP604 TP308 TP309 TP317 V316 RV315 14 TP302 TP002,001 TP312 TP313 TP306 RV317 RV306 RV307 RV309 RV308 TP307 RV310	ADJ · TP


IC601
IC602
IC603
IC006
CN304 (WHT)
CTL(Y)
CTL(X)
WHT
CTL HEAD
(K)
(J)
(F)
(E)
(G)
MB-6
1-608-636-
12
CN1 (WHT)
CN3 (WHT)
CN4 (WHT)
CN2 (BLK)
[SLOW SERVO BOARD] — VL-5 —
βIII TRACKING CENTER
1-610-043-
11
CN310 (CHECK PIN)
(F·J·K)

βIII REC mode

mark : βIII REC mode
): βII PB mode
): βIII X1 REVERSE mode
》: βIII X2 FWD mode
]: CUE mode
* : Can not be measured

12		
11	REF 5V	R.BR
10	VD INT	BLK
9	BHC	WHT
8	5V (REG)	GRY
7	GND	VIO
6	JOG	BLU
5	TS1 (B)	PINK
4	STEP	YEL
3	C FWD	ORG
2	SLOW	RED
1	βII +C/R	BRN

8	GND	GRY
7	VD	VIO
6	BHC	BLU
5	SKW (S3)	PINK
4	V, HS2 (S4)	YEL
3	V, HS1 (S2)	ORG
2	V, PG (S1)	RED
1	PB H SYNC	BRN

TO VI-1 BOARD CN003

ORG	SLOW TRACON (−)	3
RED	SLOW TRACON	2
BRN	SLOW TRACON (+)	1

1	CP PWM	
2	CTL INV	
3	PB CTL	
4	GND	

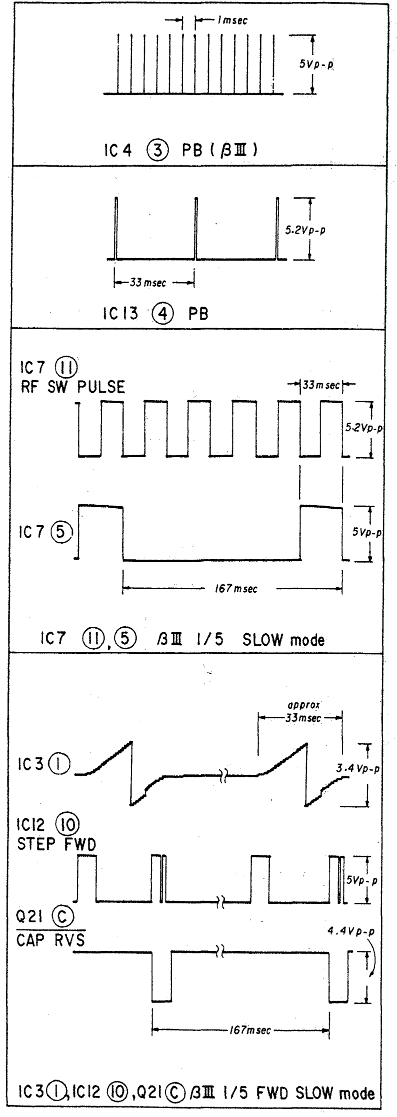
1	RF SW PULSE	BRN
2	COMP SYNC	RED
3	3.58 MHz	WHT
4	GND	—

TO VI-1 BOAD CN6

1	PF SW PULSE	BRN
2	PB CTL	WHT
3	GND	—
4	STEP FWD	YEL
5	CAP REVERSE	PINK
6	CAP CUT	BLU
7	DRUM COMPS	VIO
8	V, DL S	GRY
9	V, DL T	WHT
10	NOISE POSITION	BLK
11	FG(A)	R.BR
12	FG(B)	R.BL

Q , IC	D	ADJ , TP
1 18 30 32 7		RV14
27 16	7 10	
23 24 26 2	4 14	
		TP9
		RV18 RV16
	3	RV8
IC9 IC1 IC4 IC2	13	
33		
		RV1
		RV13
5 12 13	6	RV12 RV15
		TP2
		RV9 RV3
IC5		
	15	
35 36 17		
	5	
IC10 IC3 IC6		RV4 RV5
9		RV10
10 4 28		RV2
22 31		
25 8		
3		
IC11		TP3
		TP8
21		TP5
29		
19 34 14	9	RV6 TP4 RV17
6		TP7 RV11
IC8 IC14 IC12		TP6
IC7 IC13		
37 15		RV7 TP1
20		
Q , IC	D	ADJ , TP

VL-5 BOARD



IC4 ③ PB (βIII)

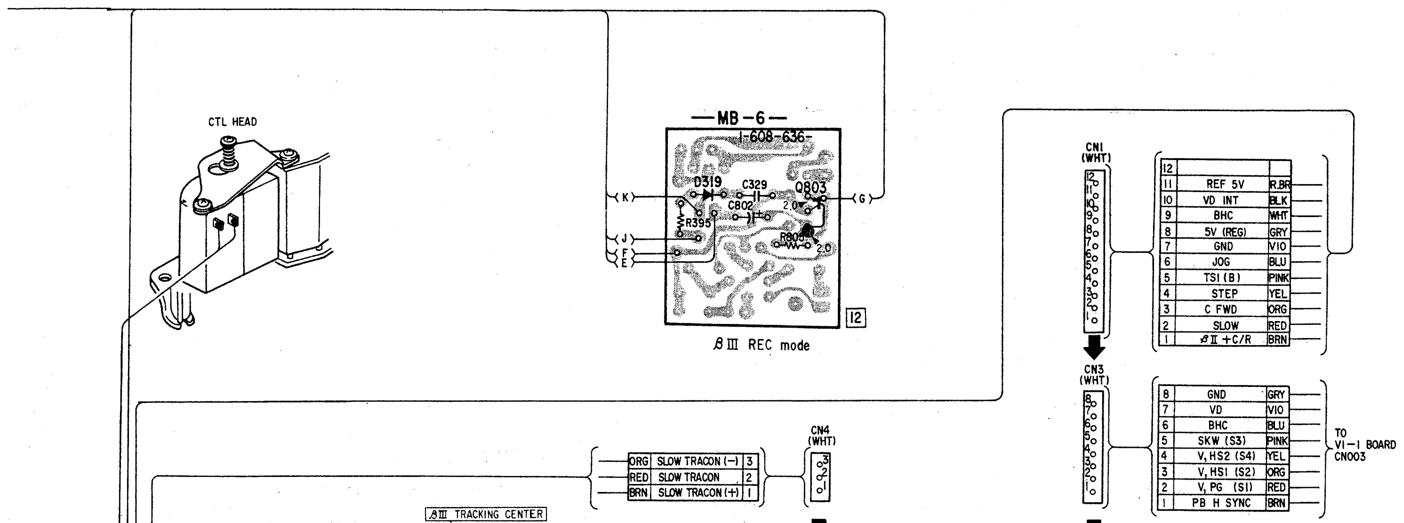
IC13 ④ PB

IC7 ⑪, ⑤ βIII 1/5 SLOW mode

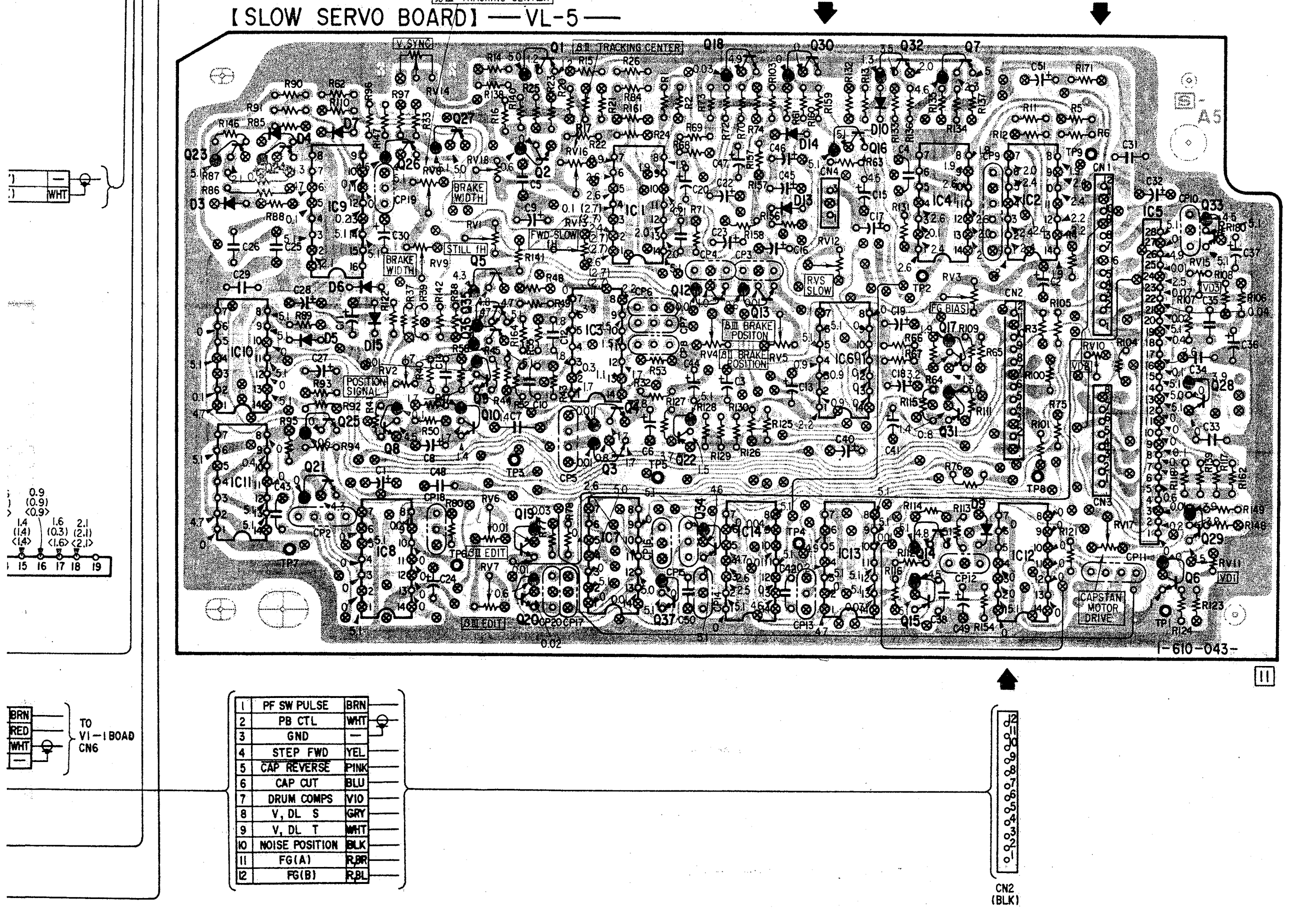
IC3 ①, IC12 ⑩, Q21 Ⓒ βIII 1/5 FWD SLOW mode

When indicating parts by reference number, please include the board name.

- ⊗ : Through hole.


CTL HEAD
—MB-6—
1-608-636-
D319
C329
Q803
C802
R395
R805
2.0
2.0
K
J
F
E
G
12
CN1 (WHT)
12
11 REF 5V R.BR
10 VD INT BLK
9 BHC WHT
8 5V (REG) GRY
7 GND VIO
6 JOG BLU
5 TSI (B) PINK
4 STEP YEL
3 C FWD ORG
2 SLOW RED
1 βII +C/R BRN
CN3 (WHT)
8 GND GRY
7 VD VIO
6 BHC BLU
5 SKW (S3) PINK
4 V, HS2 (S4) YEL
3 V, HS1 (S2) ORG
2 V, PG (S1) RED
1 PB H SYNC BRN
TO VI-1 BOARD CN003
CN4 (WHT)
ORG SLOW TRACON (−) 3
RED SLOW TRACON 2
BRN SLOW TRACON (+) 1
βIII TRACKING CENTER

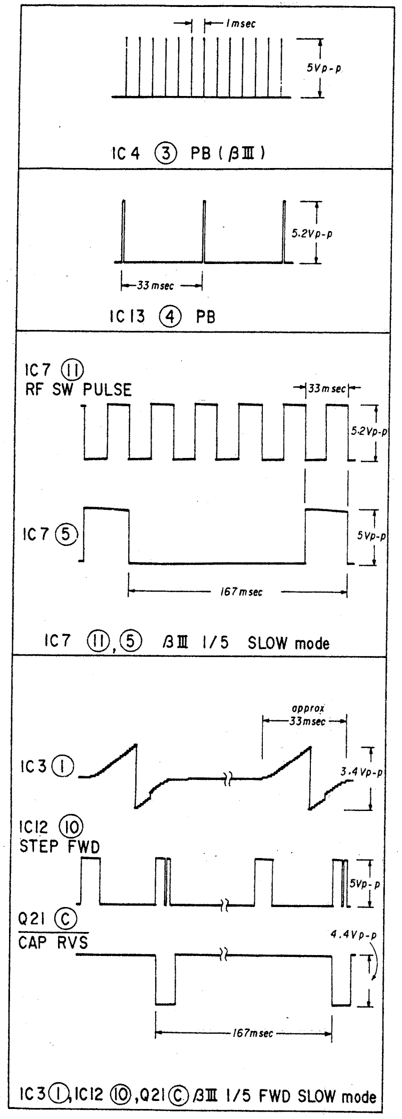
βIII REC mode


V.SYNC
βIII TRACKING CENTER
Q1
Q18
Q30
Q32
Q7
RV14
BRAKE WIDTH
BRAKE WIDTH
STILL TH
RVS SLOW
βIII BRAKE POSITION
POSITION SIGNAL
CAPSTAN MOTOR DRIVE
IC1
IC2
IC3
IC4
IC5
IC6
IC7
IC8
IC9
IC10
IC11
IC12
IC13
IC14
A5
11
1-610-043-
WHT
BRN
RED
WHT
TO VI-1 BOAD CN6
1 PF SW PULSE BRN
2 PB CTL WHT
3 GND —
4 STEP FWD YEL
5 CAP REVERSE PINK
6 CAP CUT BLU
7 DRUM COMPS VIO
8 V, DL S GRY
9 V, DL T WHT
10 NOISE POSITION BLK
11 FG(A) R.BR
12 FG(B) R.BL
CN2 (BLK)

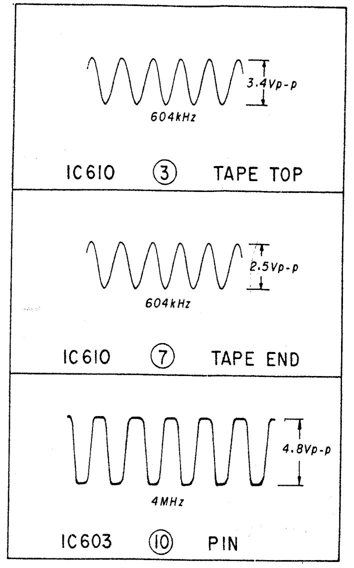
[SLOW SERVO BOARD] —VL-5—

Q , IC	D	ADJ, TP
1 18 30 32 7		RV14
27 16 23 24 26 2	7 10 4 14	
IC9 IC1 IC4 IC2 33	3 13	TP9 RV18 RV16 RV8
5 12 13	6	RV1 RV13 RV12 RV15 TP2 RV9 RV3
IC5 35 36 17	15 5	
IC10 IC3 IC6 9 10 4 28 22 31 25 8 3		RV4 RV5 RV10 RV2
IC11 21		TP3 TP8 TP5
29 19 34 14 6 IC8 IC14 IC12 IC7 IC13 37 15 20	9	RV6 TP4 RV17 TP7 RV11 TP6 RV7 TP1
Q , IC	D	ADJ, TP

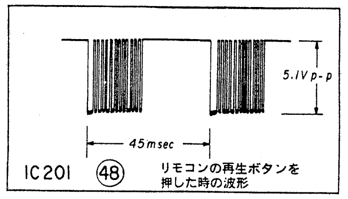
VL-5 BOARD



SS-14(1/3) BOARD
(SYSTEM CONTROL)



RR-1 BOARD



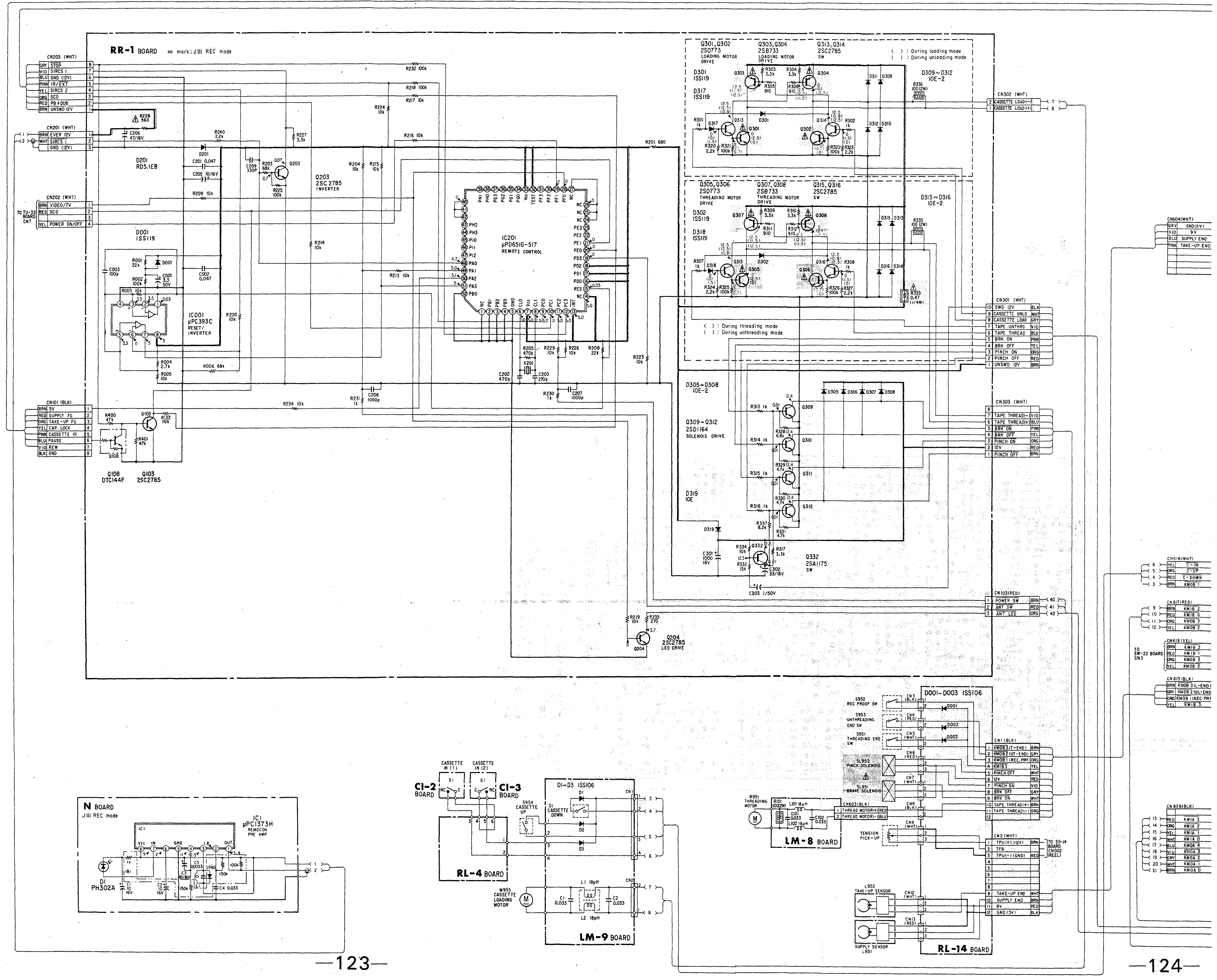
When indicating parts by reference number, please include the board name.

- ⊗ : Through hole.

1 2 3 4 5 6 7 8 9 10

4-6. SS-14 (SYSTEM CONTROL), TF-2 (DELAY), MB-6 (SWITCH), FU-11 (FUNCTION SWITCH & INDICATOR), N (INFRARED AMP), CI-2, CI-3 (CASSETTE IN), RL-4, RL-14 (RELAY), LM-8 (THREADING MOTOR), HP-2 (HEADPHONE JACK), LM-9 (LOAD

– Ref. No. SS-14 BOARD : 3000 series, TF-2 BOARD : 10900 series, MB-6 BOARD : 15000 series, FU-11 BOARD : 7100 series, N BOARD : 9600 series, CI-2 BOARD : 9700 series, CI-3 BOARD : 9800 series, RL-14 BOARD : 9200 series, LM-8 BOARD : 9100 series, LM-9 BOARD : 9500 series, RR-1 BOARD : 8000 se


RR-1 BOARD
no mark : ♫ REC mode
IC201
µPD6516-517
REMOTE CONTROL
IC001
µPC393C
RESET/INVERTER
D201 RD5.1EB
D001 1SS119
Q203 2SC2785 INVERTER
Q108 DTC144F
Q103 2SC2785
Q204 2SC2785 LED DRIVE
Q301,Q302 2SD773 LOADING MOTOR DRIVE
Q303,Q304 2SB733 LOADING MOTOR DRIVE
Q313,Q314 2SC2785 SW
Q305,Q306 2SD773 THREADING MOTOR DRIVE
Q307,Q308 2SB733 THREADING MOTOR DRIVE
Q315,Q316 2SC2785 SW
Q309~Q312 2SD1164 SOLENOID DRIVE
Q332 2SA1175 SW
N BOARD
IC1 µPC1373H REMOCON PRE AMP
D1 PH302A
CI-2 BOARD
CI-3 BOARD
RL-4 BOARD
LM-9 BOARD
LM-8 BOARD
RL-14 BOARD
M951 THREADING MOTOR
M953 CASSETTE LOADING MOTOR
S952 REC PROOF SW
S953 UNTHREADING END SW
S951 THREADING END SW
SL952 PINCH SOLENOID
SL951 BRAKE SOLENOID
L952 TAKE-UP SENSOR
L951 SUPPLY SENSOR
TENSION PICK-UP
TO SS-14 BOARD CN002 (REEL)
TO SW-22 BOARD CN3
TO TU-33 BOARD CN7

Note:

- All resistors are in ohms, 1/8W unless otherwise noted. kΩ : 1000Ω, MΩ : 1000kΩ
- All capacitors are in µF unless otherwise noted. pF : µµF 50WV or less are not indicated except for electrolytics.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ▭ : nonflammable resistor.
- The red lines show the main voltages.
- All voltages are dc measured with a VOM (10MΩ/V).

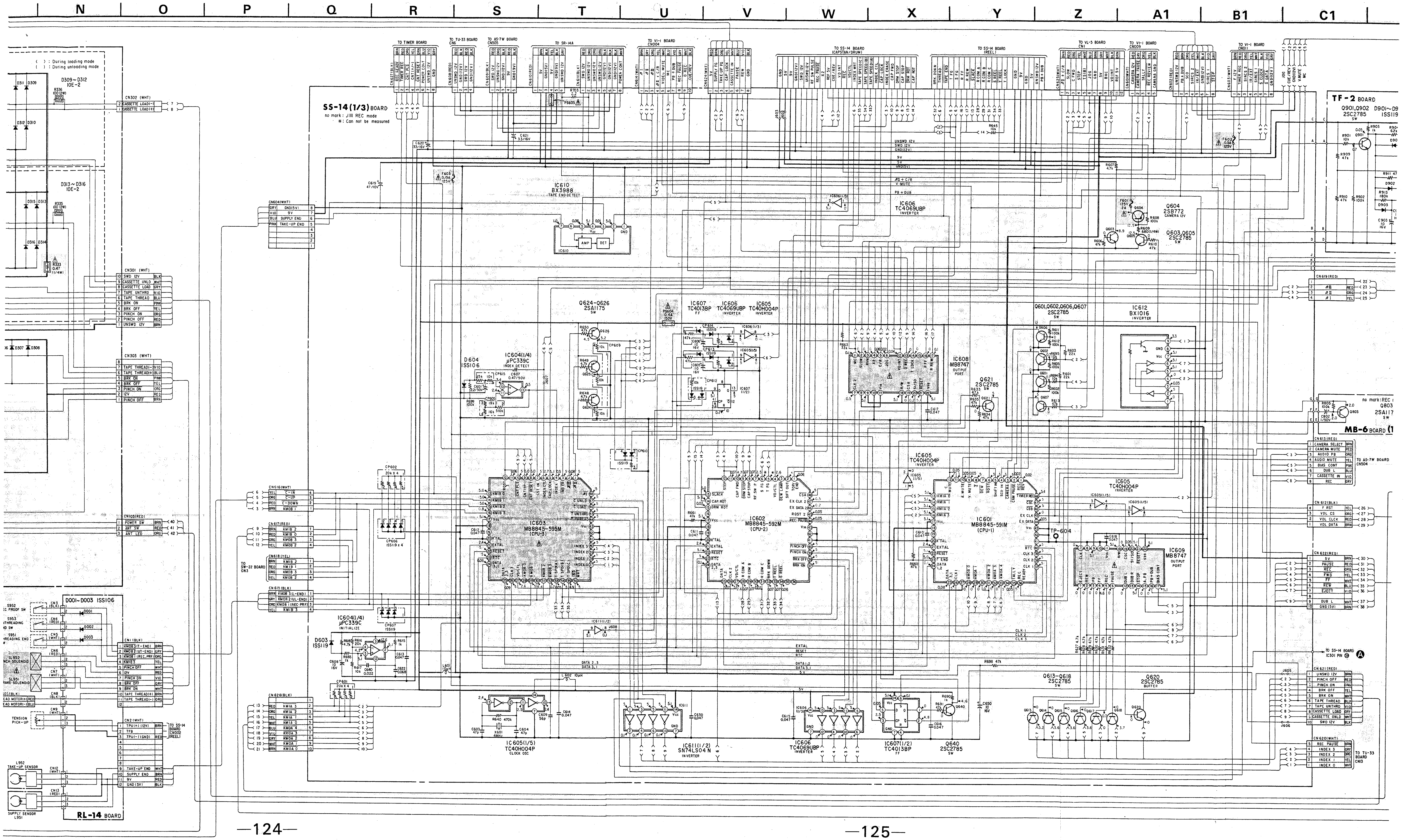
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

DING MOTOR), HP-2 (HEADPHONE JACK), LM-9 (LOADING MOTOR SWITCH), RR-1 (REMOTE CONTROL, LOADING & THREADING MOTOR DRIVE) BOARDS SCHEMATIC DIAGRAM

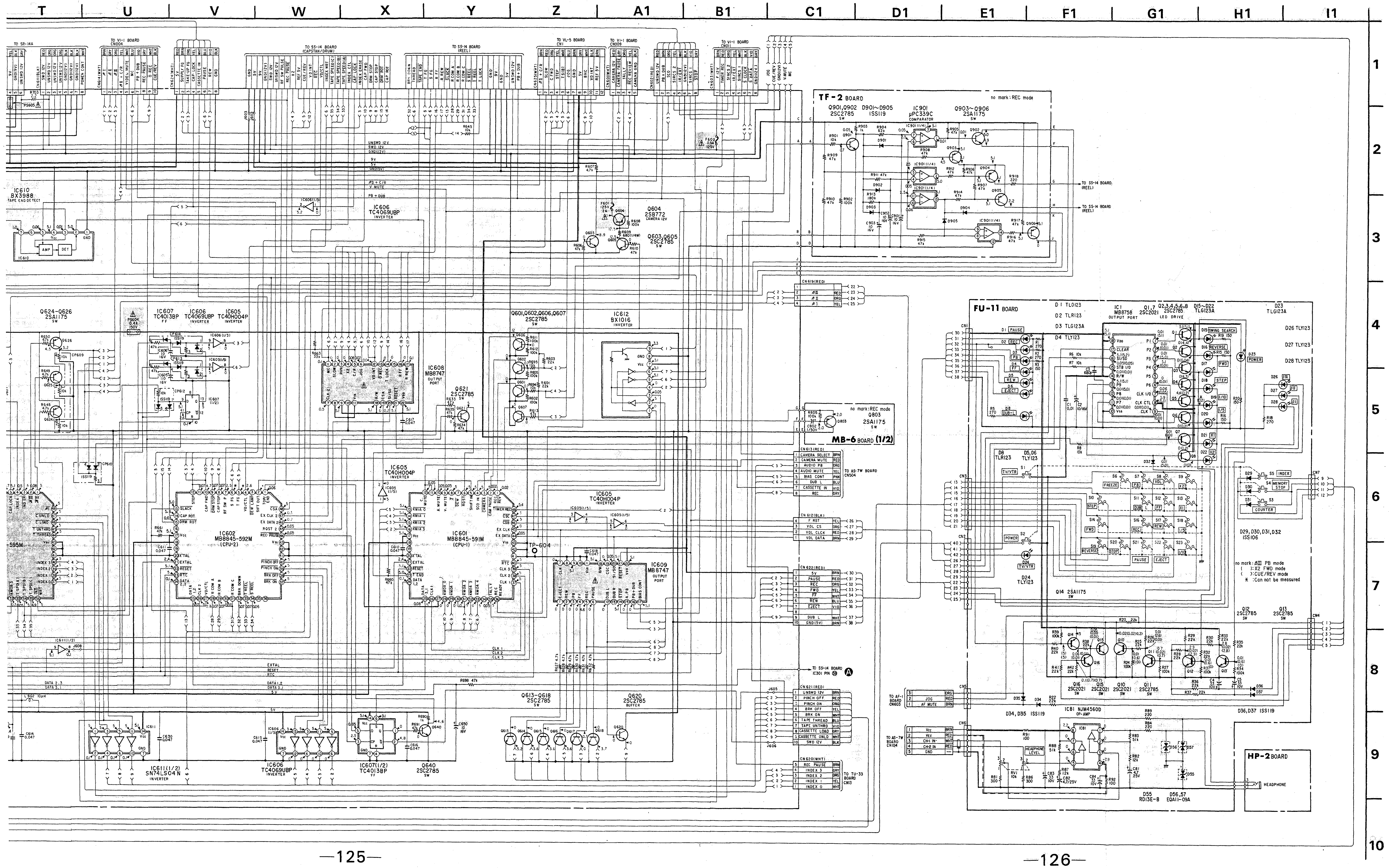
ARD : 9100 series, LM-9 BOARD : 9500 series, RR-1 BOARD : 8000 series –



N
O
P
Q
R
S
T
U
V
W
X
Y
Z
A1
B1
C1
( ) : During loading mode
[ ] : During unloading mode
D309～D312 10E-2
D313～D316 10E-2
SS-14 (1/3) BOARD
no mark : J III REC mode
*: Can not be measured
TO TIMER BOARD
TO TU-33 BOARD CN6
TO AS-7W BOARD CN505
TO SR-14A
TO VI-1 BOARD CN004
TO SS-14 BOARD (CAPSTAN/DRUM)
TO SS-14 BOARD (REEL)
TO VL-5 BOARD CN1
TO VI-1 BOARD CN009
TO VI-1 BOARD CN011
TF-2 BOARD
Q901,Q902 2SC2785 SW
D901～D9 1SS119
CN302 (WHT)
CN301 (WHT)
CN303 (WHT)
CN604(WHT)
IC610 BX3988 TAPE END DETECT
IC606 TC4069UBP INVERTER
Q604 2SB772 CAMERA 12V
Q603,Q605 2SC2785 SW
Q624～Q626 2SA1175 SW
IC604(1/4) μPC339C INDEX DETECT
D604 1SS106
IC607 TC4013BP FF
IC606 TC4069UBP INVERTER
IC605 TC40H004P INVERTER
IC608 MB8747 OUTPUT PORT
Q621 2SC2785 SW
Q601,Q602,Q606,Q607 2SC2785 SW
IC612 BX1016 INVERTER
MB-6 BOARD
Q803 2SA117 SW
CN613(RED)
TO AS-7W BOARD CN504
CN619(RED)
CN612(BLK)
CN622(RED)
IC603 MB8845-595M (CPU-3)
IC602 MB8845-592M (CPU-2)
IC601 MB8845-591M (CPU-1)
IC605 TC40H004P INVERTER
IC609 MB8747 OUTPUT PORT
TP-604
CN516(WHT)
CN103(RED)
CN617(RED)
CN618(YEL)
CN615(BLK)
TO SW-22 BOARD CN3
CN626(BLK)
CP602 20k×4
CP606 1SS119×4
CP607 1SS119
CP601 20k×4
IC604(1/4) μPC339C INITIALIZE
D603 1SS119
IC611(1/2)
IC605(1/5) TC40H004P CLOCK OSC
IC611(1/2) SN74LS04N INVERTER
IC606 TC4069UBP INVERTER
IC607(1/2) TC4013BP FF
Q640 2SC2785 SW
Q613～Q618 2SC2785 SW
Q620 2SC2785 BUFFER
TO SS-14 BOARD IC301 PIN 9 Ⓐ
CN621(WHT)
CN620(WHT)
TO TU-33 BOARD CN13
D001～D003 1SS106
S952 REC PROOF SW
S953 THREADING END SW
S951 THREADING END SW
SL952 PINCH SOLENOID
SL951 BRAKE SOLENOID
LOAD MOTOR(+)
LOAD MOTOR(-)
TENSION PICK-UP
CN11(BLK)
CN2(WHT)
TO SS-14 BOARD CN002 (REEL)
L952 TAKE-UP SENSOR
L951 SUPPLY SENSOR
RL-14 BOARD

SYSTEM CONTROL SYSTEM CONTROL

TROL, LOADING & THREADING MOTOR DRIVE) BOARDS SCHEMATIC DIAGRAM

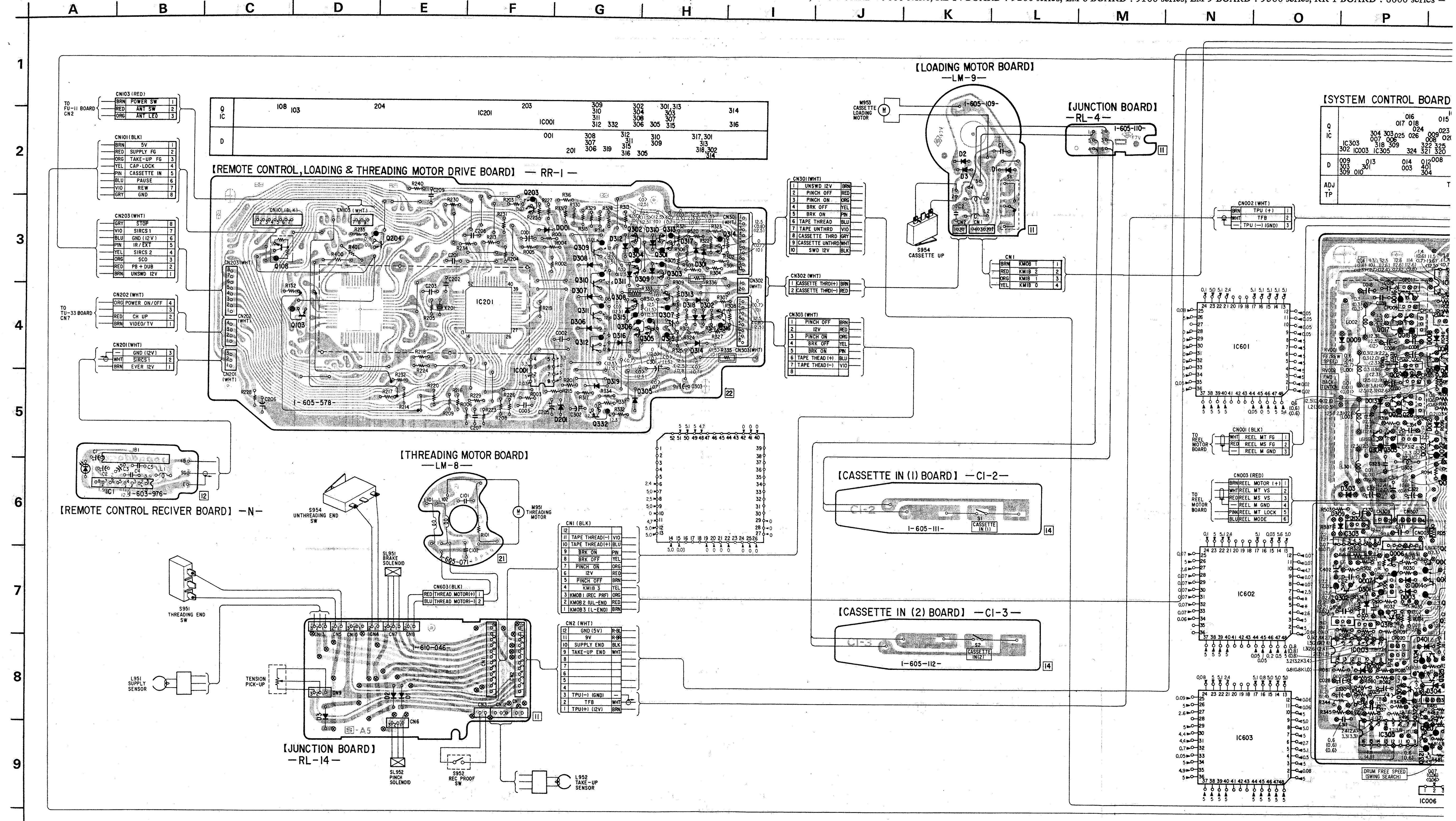


T
U
V
W
X
Y
Z
A1
B1
C1
D1
E1
F1
G1
H1
I1
1
2
3
4
5
6
7
8
9
10
TO SP-14A
TO VI-1 BOARD CN004
TO SS-14 BOARD (CAPSTAN/DRUM)
TO SS-14 BOARD (REEL)
TO VL-5 BOARD CN1
TO VI-1 BOARD CN009
TO VI-1 BOARD CN011
IC610 BX3988 TAPE END DETECT
IC606 TC4069UBP INVERTER
Q604 2SB772 CAMERA 12V
Q603,Q605 2SC2785
TF-2 BOARD
no mark : REC mode
Q901,Q902 2SC2785 SW
D901~D905 1SS119
IC901 μPC339C COMPARATOR
Q903~Q906 2SA1175 SW
TO SS-14 BOARD (REEL)
Q624~Q626 2SA1175 SW
IC607 TC4013BP FF
IC606 TC4069UBP INVERTER
IC605 TC40H004P INVERTER
IC608 MB8747 OUTPUT PORT
Q601,Q602,Q606,Q607 2SC2785 SW
IC612 BX1016 INVERTER
Q621 2SC2785
CN619(RED)
MB-6 BOARD (1/2)
Q803 2SA1175 SW
no mark : REC mode
CN613(RED)
TO AS-7W BOARD CN504
IC602 MB8845-592M (CPU-2)
IC605 TC40H004P INVERTER
IC601 MB8845-591M (CPU-1)
TP-604
IC609 MB8747 OUTPUT PORT
CN612(BLK)
CN622(RED)
TO SS-14 BOARD IC301 PIN ⑧ Ⓐ
CN621(RED)
CN620(WHT)
TO TU-33 BOARD CN13
IC611(1/2) SN74LS04N INVERTER
IC606 TC4069UBP INVERTER
IC607(1/2) TC4013BP FF
Q640 2SC2785 SW
Q613~Q618 2SC2785 SW
Q620 2SC2785 BUFFER
FU-11 BOARD
D1 TLO123
D2 TLR123
D3 TLG123A
D4 TLY123
IC1 MB8756 OUTPUT PORT
Q1,7 2SC2021
Q2,3,4,5,6,8 2SC2785 LED DRIVE
D15~D22 TLG123A
D23 TLG123A
D26 TLY123
D27 TLY123
D28 TLY123
PAUSE
REW
FF
PB
EJECT
DUB
SWING SEARCH
REVERSE
FWD
STEP
POWER
D8 TLR123
D5,D6 TLY123
TV/VTR
INDEX
MEMORY STOP
COUNTER
FREEZE
D29,D30,D31,D32 1SS106
no mark : ∂Ⅲ PB mode
( ) : X2 FWD mode
〈 〉 : CUE/REV mode
✱ : Can not be measured
D24 TLY123
Q14 2SA1175 SW
Q12 2SC2785 SW
Q13 2SC2785 SW
Q16 2SC2021 SW
Q15 2SC2021 SW
Q10 2SC2021 SW
Q11 2SC2785 SW
TO AF-1 BOARD CN603
JOG
AF MUTE
D34, D35 1SS119
D36,D37 1SS119
IC81 NJM4560D OP-AMP
TO AS-7W BOARD CN104
HEADPHONE LEVEL
HP-2 BOARD
HEADPHONE
D55 RD13E-B
D56,57 EQA11-09A

SYSTEM CONTROL SYSTEM CONTROL

SS-14 (SYSTEM CONTROL), TF-2 (DELAY), MB-6 (SWITCH), FU-11 (FUNCTION SWITCH & INDICATOR), N (INFRARED AMP), CI-2, CI-3 (CASSETTE IN), RL-4, RL-14 (RELAY), LM-8 (THREADING MOTOR), HP-2 (HEADPHONE JACK), LM-9 (LOADING

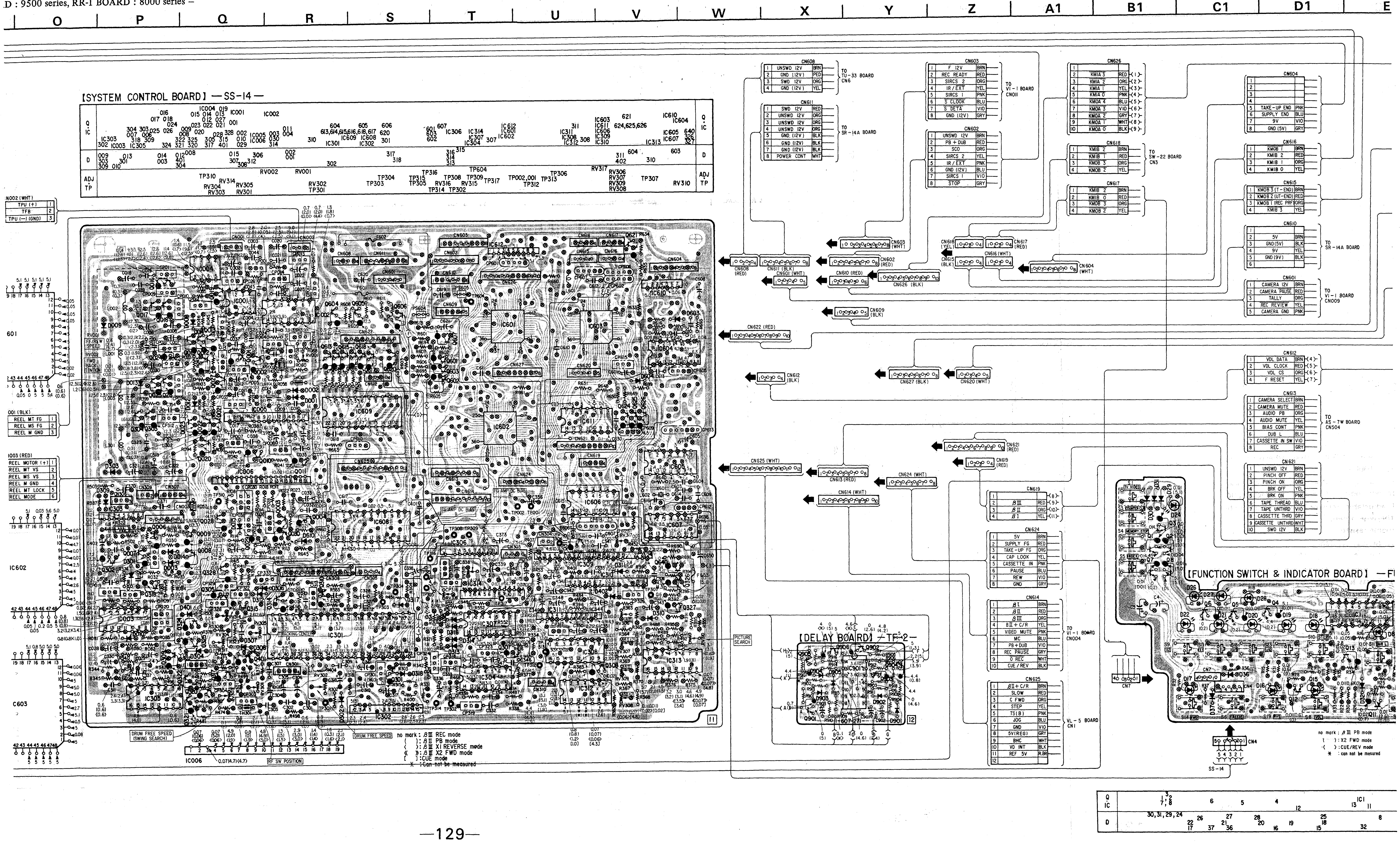
– Ref. No. SS-14 BOARD : 3000 series, TF-2 BOARD : 10900 series, MB-6 BOARD : 15000 series, FU-11 BOARD : 7100 series, N BOARD : 9600 series, CI-2 BOARD : 9700 series, CI-3 BOARD : 9800 series, RL-14 BOARD : 9200 series, LM-8 BOARD : 9100 series, LM-9 BOARD : 9500 series, RR-1 BOARD : 8000 series –


A B C D E F G H I J K L M N O P
1 2 3 4 5 6 7 8 9 10
[REMOTE CONTROL, LOADING & THREADING MOTOR DRIVE BOARD] — RR-1 —
1-605-578-
IC201
IC001
CN103 (RED)
POWER SW
ANT SW
ANT LED
TO FU-11 BOARD CN2
CN101 (BLK)
5V
SUPPLY FG
TAKE-UP FG
CAP-LOCK
CASSETTE IN
PAUSE
REW
GND
CN203 (WHT)
STOP
SIRCS 1
GND (12V)
IR/EXT
SIRCS 2
SCO
PB + DUB
UNSWD 12V
CN202 (WHT)
POWER ON/OFF
CH UP
VIDEO/TV
TO TU-33 BOARD CN7
CN201 (WHT)
GND (12V)
SIRCS1
EVER 12V
[REMOTE CONTROL RECIVER BOARD] — N —
1-603-976-
IC1
[THREADING MOTOR BOARD] — LM-8 —
1-605-071-
M951 THREADING MOTOR
S954 UNTHREADING END SW
SL951 BRAKE SOLENOID
S951 THREADING END SW
L951 SUPPLY SENSOR
TENSION PICK-UP
[JUNCTION BOARD] — RL-14 —
1-610-046-
CN603 (BLK)
THREAD MOTOR(+)
THREAD MOTOR(−)
SL952 PINCH SOLENOID
S952 REC PROOF SW
L952 TAKE-UP SENSOR
CN1 (BLK)
TAPE THREAD(−)
TAPE THREAD(+)
BRK ON
BRK OFF
PINCH ON
12V
PINCH OFF
KMIB 3
KMOB1 (REC PRF)
KMOB2 (UL-END)
KMOB3 (L-END)
CN2 (WHT)
GND (5V)
9V
SUPPLY END
TAKE-UP END
TPU(−) (GND)
TFB
TPU(+) (12V)
CN301 (WHT)
UNSWD 12V
PINCH OFF
PINCH ON
BRK OFF
BRK ON
TAPE THREAD
TAPE UNTHRD
CASSETTE THRD
CASSETTE UNTHRD
SWD 12V
CN302 (WHT)
CASSETTE THRD(+)
CASSETTE THRD(−)
CN303 (WHT)
PINCH OFF
12V
PINCH ON
BRK OFF
BRK ON
TAPE THEAD (+)
TAPE THEAD (−)
[LOADING MOTOR BOARD] — LM-9 —
1-605-109-
M953 CASSETTE LOADING MOTOR
S954 CASSETTE UP
[JUNCTION BOARD] — RL-4 —
1-605-110-
CN1
KMOB 1
KMIB 2
KMIB 1
KMIB 0
[CASSETTE IN (1) BOARD] — CI-2 —
1-605-111-
CASSETTE IN (1)
[CASSETTE IN (2) BOARD] — CI-3 —
1-605-112-
CASSETTE IN (2)
[SYSTEM CONTROL BOARD
CN002 (WHT)
TPU (+)
TFB
TPU (−) (GND)
CN001 (BLK)
TO REEL MOTOR BOARD
REEL MT FG
REEL MS FG
REEL M GND
CN003 (RED)
REEL MOTOR (+)
REEL MT VS
REEL MS VS
REEL M GND
REEL MT LOCK
REEL MODE
IC601
IC602
IC603
IC006
DRUM FREE SPEED (SWING SEARCH)

When indicating parts by reference number, please include the board name.

ADPHONE JACK), LM-9 (LOADING MOTOR SWITCH), RR-1 (REMOTE CONTROL, LOADING & THREADING MOTOR DRIVE) PRINTED WIRING BOARDS

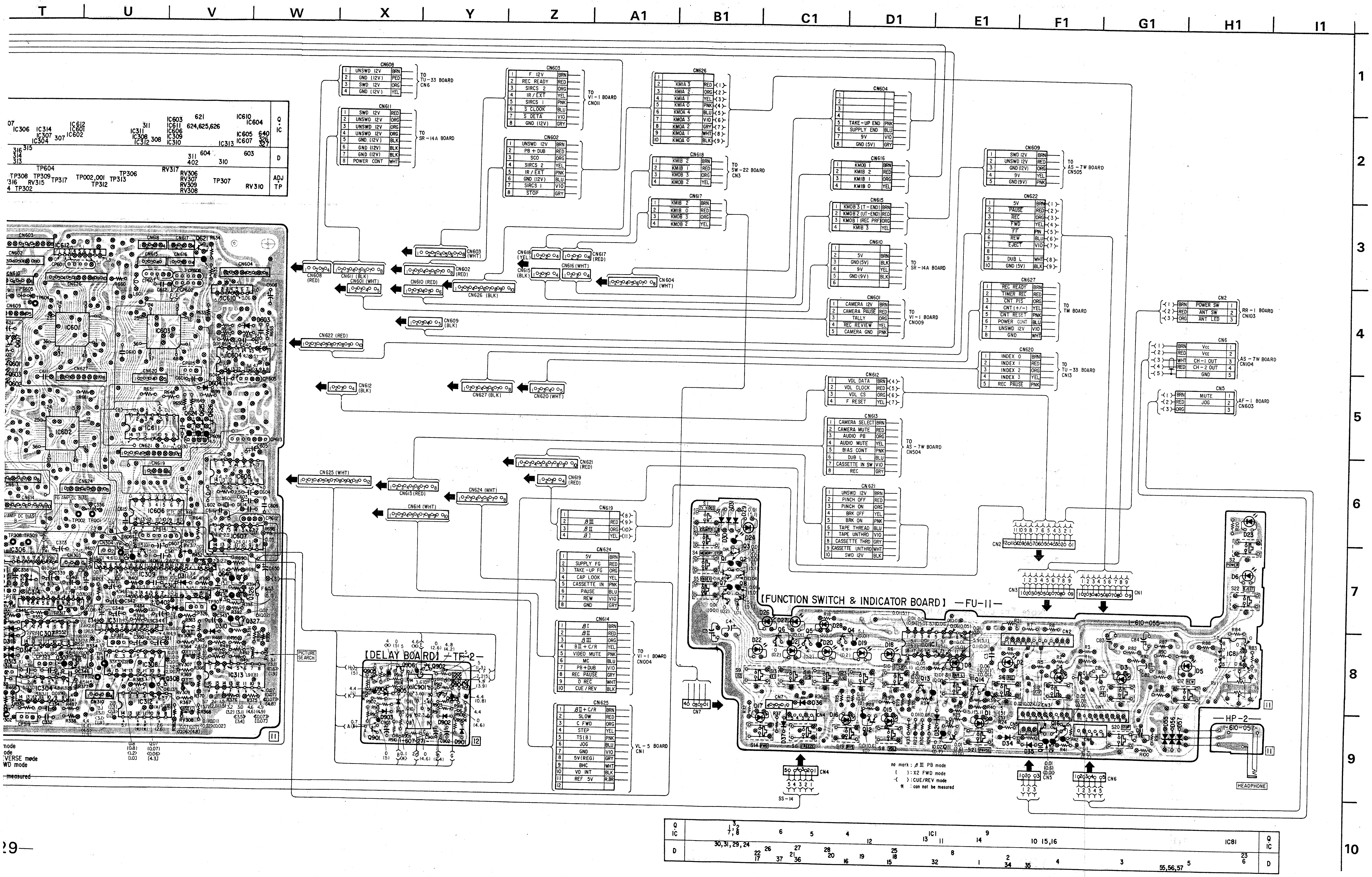
.D : 9500 series, RR-1 BOARD : 8000 series –


O
P
Q
R
S
T
U
V
W
X
Y
Z
A1
B1
C1
D1
E
【SYSTEM CONTROL BOARD】 —SS-14—
【DELAY BOARD】 —TF-2—
【FUNCTION SWITCH & INDICATOR BOARD】 —F
CN608
CN611
CN603
CN602
CN626
CN618
CN617
CN604
CN616
CN615
CN610
CN601
CN612
CN613
CN621
CN619
CN624
CN614
CN625
TO TU-33 BOARD CN6
TO SR-14A BOARD
TO VI-1 BOARD CN011
TO SW-22 BOARD CN3
TO VI-1 BOARD CN009
TO AS-7W BOARD CN504
TO VI-1 BOARD CN004
VL-5 BOARD CN1
PICTURE SEARCH
DRUM FREE SPEED (SWING SEARCH)
DRUM FREE SPEED
RF SW POSITION
IC006
IC602
IC603
SS-14
CN4
CN7
no mark : βIII REC mode
( ): βII PB mode
〈 〉: βIII X1 REVERSE mode
《 》: βIII X2 FWD mode
[ ] :CUE mode
X :Can not be measured
no mark : βIII PB mode
( ) :X2 FWD mode
〈 〉 :CUE/REV mode
* : can not be mesured

SYSTEM CONTROL SYSTEM CONTROL

, LOADING & THREADING MOTOR DRIVE) PRINTED WIRING BOARDS

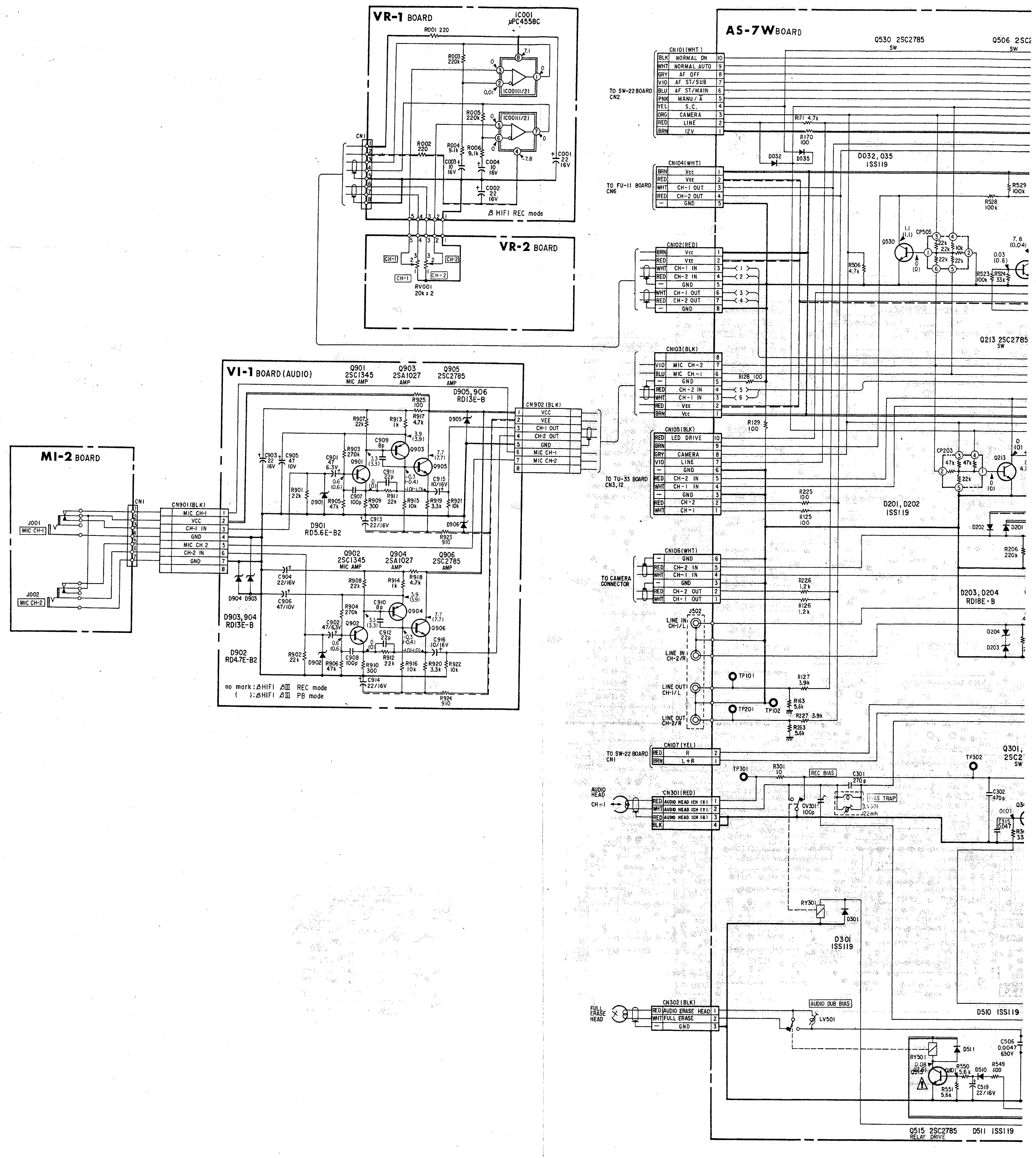
SYSTEM CONTROL


T
U
V
W
X
Y
Z
A1
B1
C1
D1
E1
F1
G1
H1
I1
1
2
3
4
5
6
7
8
9
10
Q IC: 07 IC306 IC314 IC307 IC304 307 IC612 IC601 IC602 311 IC311 IC308 IC312 308 IC603 IC611 IC606 IC309 IC310 621 624,625,626 IC313 IC610 IC604 IC605 IC607 640 326 327
D: 316 315 314 313 311 402 604 310 603
ADJ TP: TP604 TP308 TP309 TP317 '316 RV315 4 TP302 TP002,001 TP312 TP313 TP306 RV317 RV306 RV307 RV309 RV308 TP307 RV310
CN608
1 UNSWD 12V BRN
2 GND (12V) PED
3 SWD 12V ORG
4 GND (12V) YEL
TO TU-33 BOARD CN6
CN611
1 SWD 12V RED
2 UNSWD 12V ORG
3 UNSWD 12V ORG
4 UNSWD 12V ORG
5 GND. (12V) BLK
6 GND (12V) BLK
7 GND (12V) BLK
8 POWER CONT WHT
TO SR-14A BOARD
CN603
1 F 12V BRN
2 REC READY RED
3 SIRCS 2 ORG
4 IR/EXT YEL
5 SIRCS 1 PNK
6 S CLOOK BLU
7 S DETA VIO
8 GND (12V) GRY
TO VI-1 BOARD CN011
CN602
1 UNSWD 12V BRN
2 PB + DUB RED
3 SCO ORG
4 SIRCS 2 YEL
5 IR/EXT PNK
6 GND (12V) BLU
7 SIRCS 1 VIO
8 STOP GRY
CN626
1
2 KMIA 3 RED ⟨1⟩
3 KMIA 2 ORG ⟨2⟩
4 KMIA 1 YEL ⟨3⟩
5 KMIA 0 PNK ⟨4⟩
6 KMOA 4 BLU ⟨5⟩
7 KMOA 3 VIO ⟨6⟩
8 KMOA 2 GRY ⟨7⟩
9 KMOA 1 WHT ⟨8⟩
10 KMOA 0 BLK ⟨9⟩
CN618
1 KMIB 2 BRN
2 KMIB 1 RED
3 KMOB 3 ORG
4 KMOB 2 YEL
TO SW-22 BOARD CN3
CN617
1 KMIB 2 BRN
2 KMIB 0 RED
3 KMOB 3 ORG
4 KMOB 2 YEL
CN604
1
2
3
4
5 TAKE-UP END PNK
6 SUPPLY END BLU
7 9V VIO
8 GND (5V) GRY
CN616
1 KMOB 1 BRN
2 KMIB 2 RED
3 KMIB 1 ORG
4 KMIB 0 YEL
CN615
1 KMOB 3 (T-END) BRN
2 KMOB 2 (UT-END) RED
3 KMOB 1 (REC PRF) ORG
4 KMIB 3 YEL
CN610
1
2 5V BRN
3 GND (5V) BLK
4 9V YEL
5 GND (9V) BLK
6
TO SR-14A BOARD
CN601
1 CAMERA 12V BRN
2 CAMERA PAUSE RED
3 TALLY ORG
4 REC REVIEW YEL
5 CAMERA GND PNK
TO VI-1 BOARD CN009
CN612
1 VDL DATA BRN ⟨4⟩
2 VDL CLOCK RED ⟨5⟩
3 VDL CS ORG ⟨6⟩
4 F RESET YEL ⟨7⟩
CN613
1 CAMERA SELECT BRN
2 CAMERA MUTE RED
3 AUDIO PB ORG
4 AUDIO MUTE YEL
5 BIAS CONT PNK
6 DUB L BLU
7 CASSETTE IN SW VIO
8 REC GRY
TO AS-7W BOARD CN504
CN621
1 UNSWD 12V BRN
2 PINCH OFF RED
3 PINCH ON ORG
4 BRK OFF YEL
5 BRK ON PNK
6 TAPE THREAD BLU
7 TAPE UNTHRD VIO
8 CASSETTE THRD GRY
9 CASSETTE UNTHRD WHT
10 SWD 12V BLK
CN609
1 SWD 12V BRN
2 UNSWD 12V RED
3 GND (12V) ORG
4 9V YEL
5 GND (9V) PNK
TO AS-7W BOARD CN505
CN622
1 5V BRN ⟨1⟩
2 PAUSE RED ⟨2⟩
3 REC ORG ⟨3⟩
4 FWD YEL ⟨4⟩
5 FF PIN ⟨5⟩
6 REW BLU ⟨6⟩
7 EJECT VIO ⟨7⟩
8
9 DUB L WHT ⟨8⟩
10 GND (5V) BLK ⟨9⟩
CN627
1 REC READY BRN
2 TIMER REC RED
3 CNT PIS ORG
4 CNT (+/-) YEL
5 CNT RESET PNK
6 POWER CONT BLU
7 UNSWD 12V VIO
8 GND WHT
TO TM BOARD
CN620
1 INDEX 0 BRN
2 INDEX 1 RED
3 INDEX 2 ORG
4 INDEX 3 YEL
5 REC PAUSE PNK
TO TU-33 BOARD CN13
CN2
⟨1⟩ BRN POWER SW 1
⟨2⟩ RED ANT SW 2
⟨3⟩ ORG ANT LED 3
RR-1 BOARD CN103
CN6
⟨1⟩ BRN Vcc 1
⟨2⟩ RED VEE 2
⟨3⟩ WHT CH-1 OUT 3
⟨4⟩ RED CH-2 OUT 4
⟨5⟩ GND 5
AS-7W BOARD CN104
CN5
⟨1⟩ BRN MUTE 1
⟨2⟩ RED JOG 2
⟨3⟩ ORG 3
AF-1 BOARD CN603
CN619
1 ⟨8⟩
2 βIII RED ⟨9⟩
3 βII ORG ⟨10⟩
4 βI YEL ⟨11⟩
CN624
1 5V BRN
2 SUPPLY FG RED
3 TAKE-UP FG ORG
4 CAP LOOK YEL
5 CASSETTE IN PNK
6 PAUSE BLU
7 REW VIO
8 GND GRY
CN614
1 βI BRN
2 βII RED
3 βIII ORG
4 BII + C/R YEL
5 VIDEO MUTE PNK
6 MC BLU
7 PB + DUB VIO
8 REC PAUSE GRY
9 0 REC WHT
10 CUE/REV BLK
TO VI-1 BOARD CN004
CN625
1 βII + C/R BRN
2 SLOW RED
3 C FWD ORG
4 STEP YEL
5 TS(B) PNK
6 JOG BLU
7 GND VIO
8 5V(REG) GRY
9 BHC WHT
10 VD INT BLK
11 REF 5V R.BR
12
VL-5 BOARD CN1
CN608 (RED)
CN611 (BLK)
CN601 (WHT)
CN603 (WHT)
CN602 (RED)
CN610 (RED)
CN626 (BLK)
CN618 (YEL)
CN617 (RED)
CN615 (BLK)
CN616 (WHT)
CN604 (WHT)
CN609 (BLK)
CN622 (RED)
CN612 (BLK)
CN627 (BLK)
CN620 (WHT)
CN621 (RED)
CN619 (RED)
CN625 (WHT)
CN613 (RED)
CN624 (WHT)
CN614 (WHT)
PICTURE SEARCH
[DELAY BOARD] -TF-2-
[FUNCTION SWITCH & INDICATOR BOARD] -FU-11-
1-610-055
-HP-2-
1-610-057
HEADPHONE
CN1
CN2
CN3
CN4
CN5
CN6
CN7
SS-14
IC601
IC602
IC603
IC604
IC605
IC606
IC610
IC611
IC612
IC306
IC307
IC308
IC309
IC310
IC311
IC312
IC313
IC304
IC81
S2 POWER
S8 VOL
S14 FWD
S20 STOP
S21 PAUSE
mode
ode
VERSE mode
WD mode
measured
Q IC: 3 1,2 7,8 6 5 4 12 IC1 13 11 9 14 10 15,16 IC81
D: 30,31,29,24 22 17 26 37 27 21 36 28 20 16 19 25 18 15 32 8 1 2 34 35 4 3 55,56,57 5 23 6

no mark : βIII PB mode
( ) : X2 FWD mode
⟨ ⟩ : CUE/REV mode
* : can not be mesured

4-7. AS-7W (AUDIO SIGNAL (βHIFI, NORMAL) REC/PB PROCESS), VR-1, VR-2 (LEVEL ADJ), VI-1 (MIC AMP), MI-2 (MIC JACK) BOARDS SCHEMATIC DIAGRAM

– Ref. No. AS-7W BOARD : 2000 series, VR-1 BOARD : 5400 series, VR-2 BOARD : 5500 series, VI-1 BOARD : 1000 series, MI-2 BOARD 5600 series –


VR-1 BOARD
IC001 μPC4558C
VR-2 BOARD
RV001 20k x 2
VI-1 BOARD (AUDIO)
Q901 2SC1345 MIC AMP
Q903 2SA1027 AMP
Q905 2SC2785 AMP
Q902 2SC1345 MIC AMP
Q904 2SA1027 AMP
Q906 2SC2785 AMP
MI-2 BOARD
J001 MIC CH-1
J002 MIC CH-2
AS-7W BOARD
Q530 2SC2785 SW
TO SW-22 BOARD CN2
TO FU-11 BOARD CN6
TO TU-33 BOARD CN3, 12
TO CAMERA CONNECTOR
TO SW-22 BOARD CN1
AUDIO HEAD CH-1
FULL ERASE HEAD
D301 1SS119
D032, 035 1SS119
D201, D202 1SS119
D203, D204 RD18E-B
Q515 2SC2785 RELAY DRIVE
D511 1SS119
D510 1SS119
no mark : βHIFI βII REC mode
( ) : βHIFI βII PB mode
βHIFI REC mode

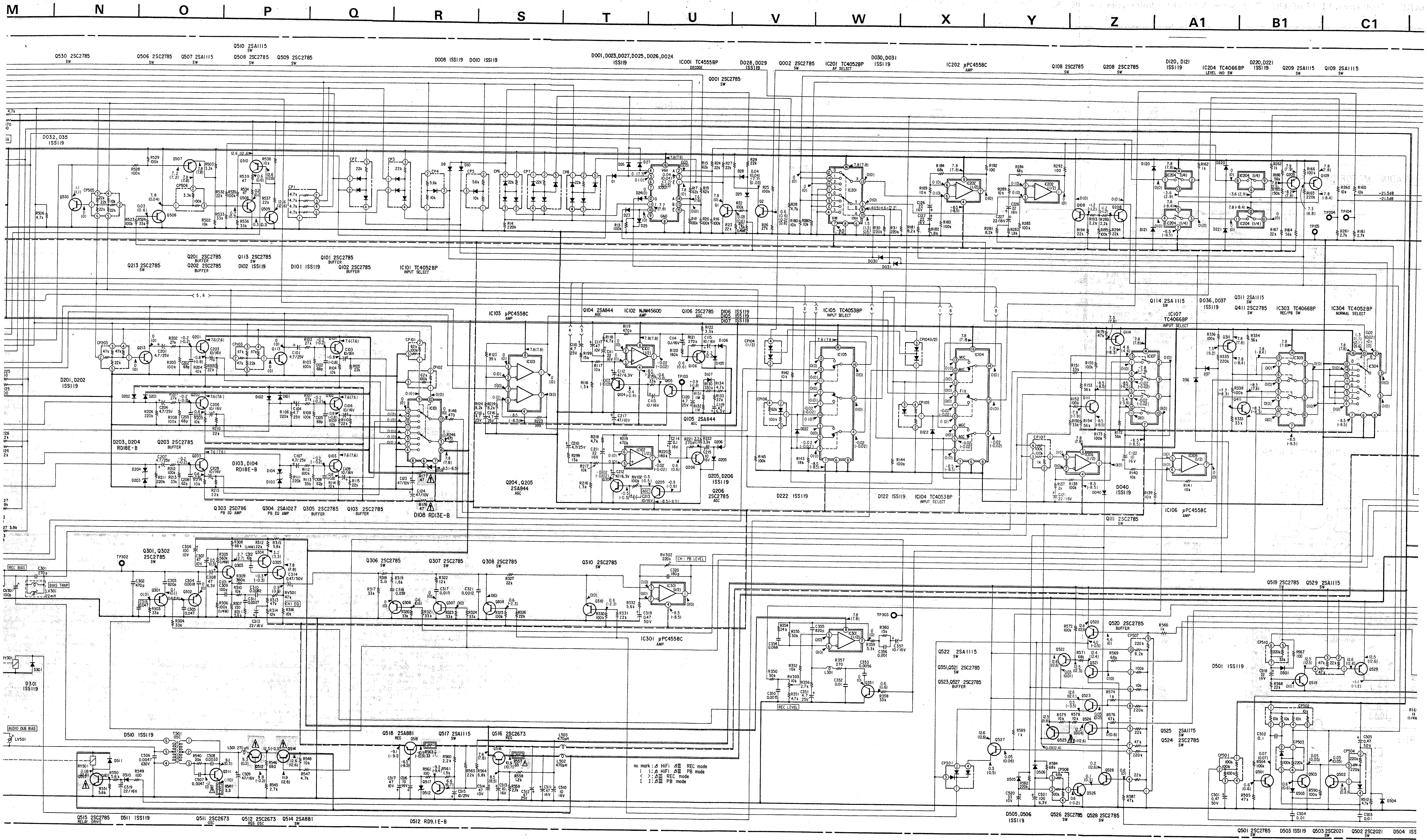
Note:

- All resistors are in ohms, 1/8W unless otherwise noted. kΩ : 1000 Ω, MΩ : 1000 kΩ
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ▭ : nonflammable resistor.
- The red lines show the main voltages.
- All voltages are dc measured with a VOM (10MΩ/V).

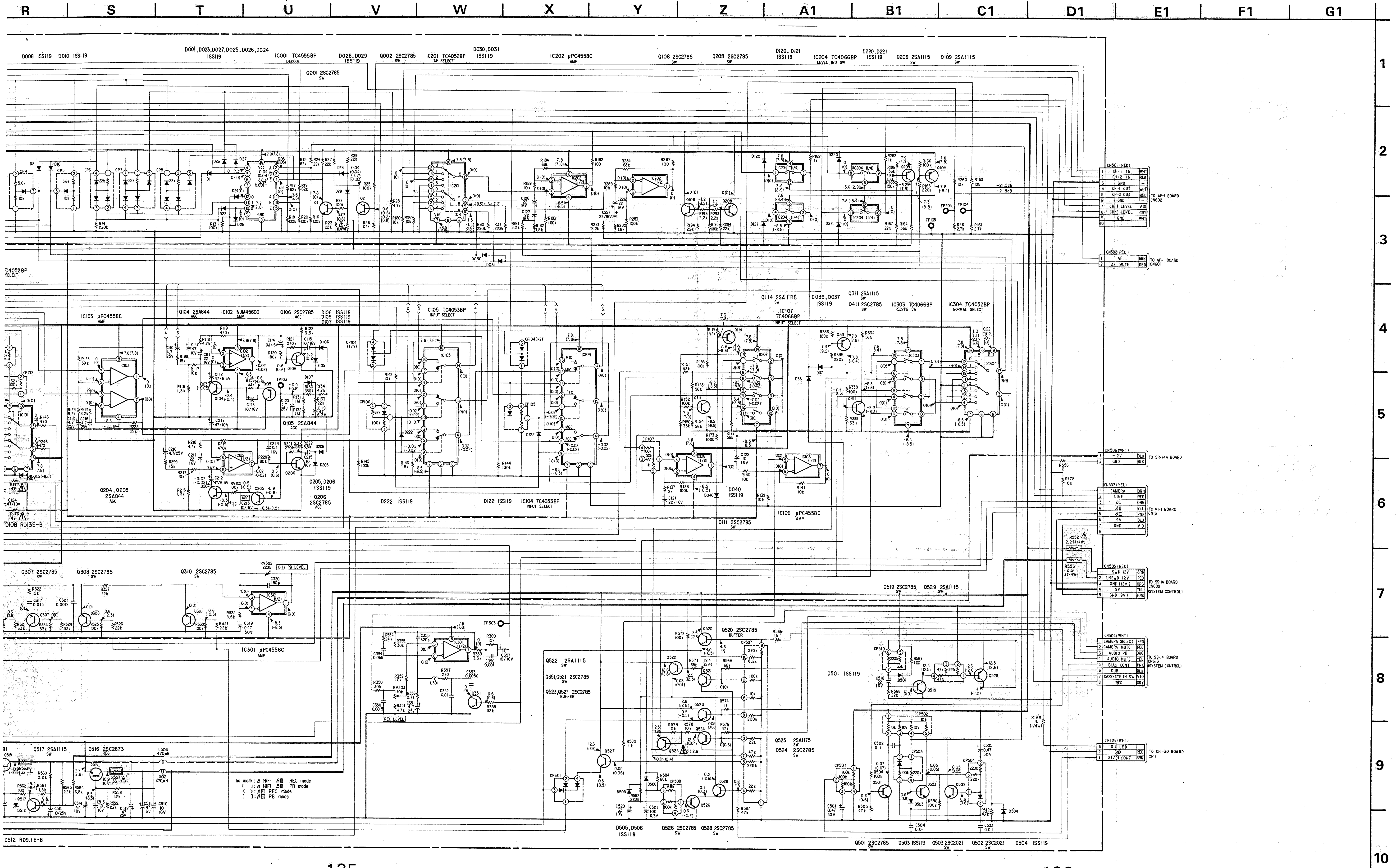
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.


M
N
O
P
Q
R
S
T
U
V
W
X
Y
Z
A1
B1
C1
Q530 2SC2785 SW
Q506 2SC2785 SW
Q507 2SA1115 SW
Q510 2SA1115 SW
Q508 2SC2785 SW
Q509 2SC2785 SW
D008 1SS119
D010 1SS119
D001,D023,D027,D025,D026,D024 1SS119
IC001 TC4555BP DECODE
D028,D029 1SS119
Q002 2SC2785 SW
IC201 TC4052BP AF SELECT
D030,D031 1SS119
IC202 μPC4558C AMP
Q108 2SC2785 SW
Q208 2SC2785 SW
D120,D121 1SS119
IC204 TC4066BP LEVEL IND SW
D220,D221 1SS119
Q209 2SA1115 SW
Q109 2SA1115 SW
Q001 2SC2785 SW
D032,035 1SS119
Q213 2SC2785 SW
Q201 2SC2785 BUFFER
Q202 2SC2785 BUFFER
Q113 2SC2785 SW
D102 1SS119
D101 1SS119
Q101 2SC2785 BUFFER
Q102 2SC2785 BUFFER
IC101 TC4052BP INPUT SELECT
IC103 μPC4558C AMP
Q104 2SA844 AGC
IC102 NJM4560D AMP
Q106 2SC2785 AGC
D106 1SS119
D105 1SS119
D107 1SS119
IC105 TC4053BP INPUT SELECT
Q114 2SA1115
D036,D037 1SS119
Q311 2SA1115 SW
Q411 2SC2785 SW
IC303 TC4066BP REC/PB SW
IC304 TC4052BP NORMAL SELECT
IC107 TC4066BP INPUT SELECT
D201,D202 1SS119
D203,D204 RD18E-B
Q203 2SC2785 BUFFER
D103,D104 RD18E-B
Q303 2SD786 PB EQ AMP
Q304 2SA1027 PB EQ AMP
Q305 2SC2785 BUFFER
Q103 2SC2785 BUFFER
D108 RD13E-B
Q204,Q205 2SA844 AGC
Q105 2SA844 AGC
Q206 2SC2785 AGC
D205,D206 1SS119
D222 1SS119
D122 1SS119
IC104 TC4053BP INPUT SELECT
D040 1SS119
IC106 μPC4558C AMP
Q111 2SC2785 SW
REC BIAS
BIAS TRAP
TP302
Q301,Q302 2SC2785
CH1 EQ
Q306 2SC2785 SW
Q307 2SC2785 SW
Q308 2SC2785 SW
Q310 2SC2785 SW
CH1 PB LEVEL
IC301 μPC4558C AMP
TP303
REC LEVEL
Q519 2SC2785 SW
Q529 2SA1115 SW
RY301
D301 1SS119
Q522 2SA1115 SW
Q351,Q521 2SC2785 SW
Q523,Q527 2SC2785 BUFFER
Q520 2SC2785 BUFFER
D501 1SS119
AUDIO DUB BIAS
D510 1SS119
T501 OSC
Q518 2SA881 REG
Q517 2SA1115 SW
Q516 2SC2673 REG
Q525 2SA1175
Q524 2SC2785 SW
no mark : β HiFi βIII REC mode
( ) : β HiFi βIII PB mode
〈 〉 : βIII REC mode
[ ] : βIII PB mode
Q515 2SC2785 RELAY DRIVE
D511 1SS119
Q511 2SC2673 OSC
Q512 2SC2673 REG OSC
Q514 2SA881 SW
D512 RD9.1E-B
D505,D506 1SS119
Q526 2SC2785 SW
Q528 2SC2785 SW
Q501 2SC2785 SW
D503 1SS119
Q503 2SC2021 SW
Q502 2SC2021 SW
D504 1SS

AUDIO AUDIO

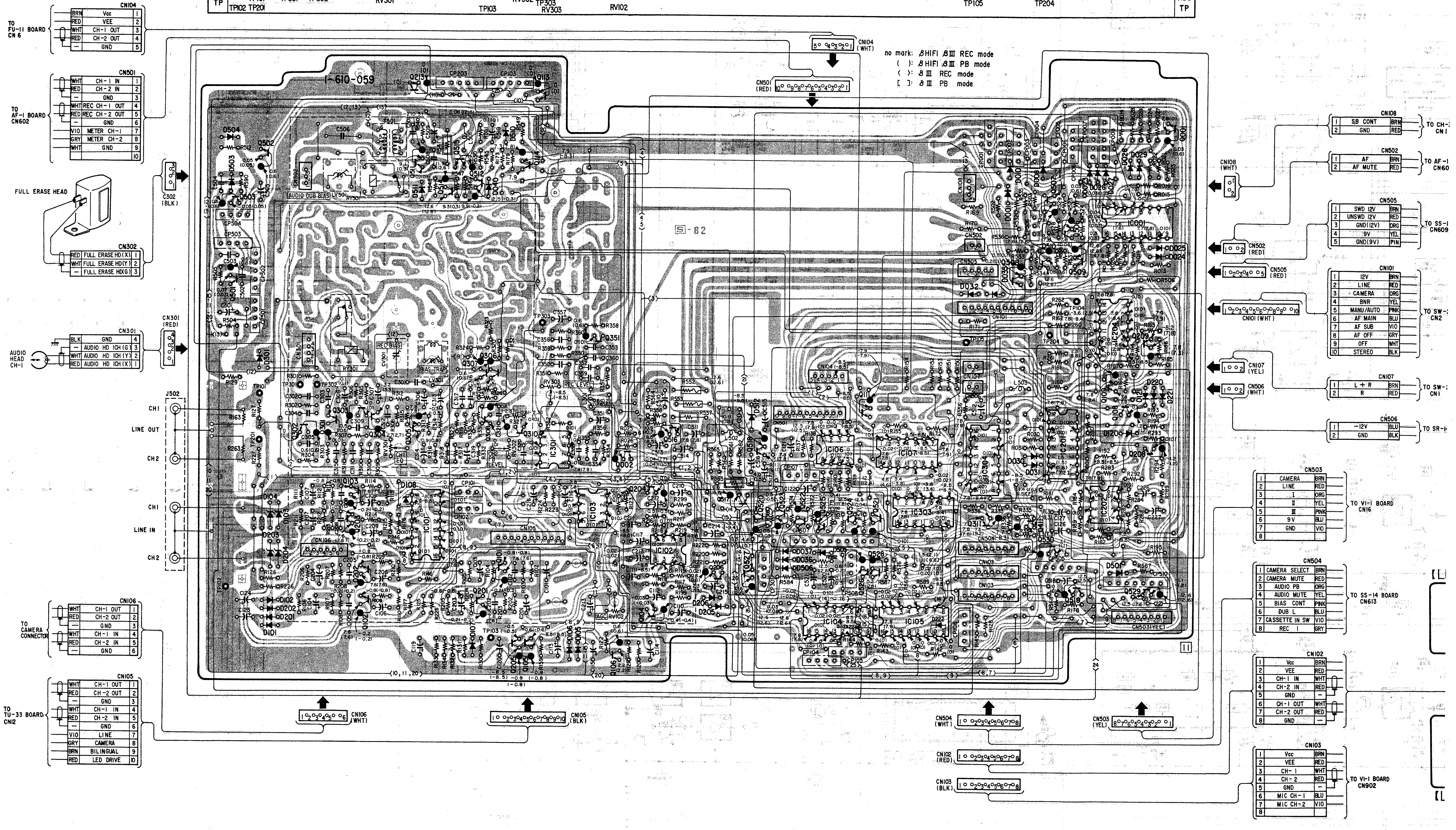

R S T U V W X Y Z A1 B1 C1 D1 E1 F1 G1
1 2 3 4 5 6 7 8 9 10
D008 1SS119 D010 1SS119
D001,D023,D027,D025,D026,D024 1SS119
IC001 TC4555BP DECODE
Q001 2SC2785 SW
D028,D029 1SS119
Q002 2SC2785 SW
IC201 TC4052BP AF SELECT
D030,D031 1SS119
IC202 μPC4558C AMP
Q108 2SC2785 SW
Q208 2SC2785 SW
D120,D121 1SS119
IC204 TC4066BP LEVEL IND SW
D220,D221 1SS119
Q209 2SA1115 SW
Q109 2SA1115 SW
CN501(RED)
CH-1 IN
CH-2 IN
GND
CH-1 OUT
CH-2 OUT
GND
CH-1 LEVEL
CH-2 LEVEL
GND
TO AF-1 BOARD CN602
CN502(RED)
AF
AF MUTE
TO AF-1 BOARD CN601
IC103 μPC4558C AMP
Q104 2SA844 AGC
IC102 NJM4560D AMP
Q106 2SC2785 AGC
D106 1SS119 D105 1SS119 D107 1SS119
IC105 TC4053BP INPUT SELECT
IC104 TC4053BP INPUT SELECT
Q114 2SA1115 SW
IC107 TC4066BP INPUT SELECT
D036,D037 1SS119
Q311 2SA1115 SW
Q411 2SC2785 SW
IC303 TC4066BP REC/PB SW
IC304 TC4052BP NORMAL SELECT
Q105 2SA844 AGC
Q204,Q205 2SA844 AGC
Q206 2SC2785 AGC
D205,D206 1SS119
D222 1SS119
D122 1SS119
D040 1SS119
IC106 μPC4558C AMP
Q111 2SC2785 SW
D108 RD13E-B
CN506(WHT)
-12V
GND
TO SR-14A BOARD
CN503(YEL)
CAMERA
LINE
TO VI-1 BOARD CN16
9V
GND
R552 2.2(1/4W)
R553 2.2(1/4W)
CN505(RED)
SWD 12V
UNSWD 12V
GND (12V)
9V
GND (9V)
TO SS-14 BOARD CN609 (SYSTEM CONTROL)
Q307 2SC2785 SW
Q308 2SC2785 SW
Q310 2SC2785 SW
RV302 220k CH1 PB LEVEL
IC301 μPC4558C AMP
Q519 2SC2785 SW
Q529 2SA1115 SW
CN504(WHT)
CAMERA SELECT
CAMERA MUTE
AUDIO PB
AUDIO MUTE
BIAS CONT
DUB
CASSETTE IN SW
REC
TO SS-14 BOARD CN613 (SYSTEM CONTROL)
Q520 2SC2785 BUFFER
Q522 2SA1115 SW
Q351,Q521 2SC2785
Q523,Q527 2SC2785 BUFFER
RV303 10k REC LEVEL
TP303
D501 1SS119
Q525 2SA1175 SW
Q524 2SC2785 SW
Q517 2SA1115 SW
Q516 2SC2673 REG
L503 470μH
L502 470μH
no mark : A HiFi AII REC mode
( ) : A HiFi AII PB mode
< > : AII REC mode
[ ] : AII PB mode
CN1108(WHT)
S.G LED
GND
ST/B1 CONT
TO CH-30 BOARD CN1
D512 RD9.1E-B
D505,D506 1SS119
Q526 2SC2785 SW
Q528 2SC2785 SW
Q501 2SC2785 SW
D503 1SS119
Q503 2SC2021 SW
Q502 2SC2021 SW
D504 1SS119

AS-7W (AUDIO SIGNAL (βHIFI, NORMAL) REC/PB PROCESS), VR-1, VR-2 (LEVEL ADJ) PRINTED WIRING BOARDS

– Ref. No. AS-7W BOARD : 2000 series, VR-1 BOARD : 5400 series, VR-2 BOARD : 5500 series –

[AUDIO (βHIFI, NORMAL) REC/PB PROCESS BOARD] —— AS-7W ——

	D	E	F	G	H	I	J	K	L	M	N	
Q,IC	503 502 501	302 301 303 103 203	304 202 102 213 511 305 IC101 514 515	512 307 306 308 101 201 205 114 113 310 105 IC301	351 IC103 002 106 204 104	516 IC102 206 518 517 527	520 523 522 525 IC106 IC104	111 524 526 521 528 IC107 IC303 IC105	IC304 311 508 507 510 411 530	506 509 IC201 519 IC202 IC204 IC001 109 108	001 209 208 529	Q,IC
D	504 503	301 104 203 103 204 102 202 201 101	108 511	107 040 510 106	105	206 205 512	037 036 506 505	122	222 032 010 001 035 030 031 008	023 026 027 028 120 501 029 121	025 024 220 221	D
ADJ TP	TP101 TP102 TP201	TP301 TP302	RV301	TP103 RV302 TP303 RV303	RV102				TP105 TP204	TP104		ADJ TP


A
B
C
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I
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K
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M
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O
P
1
2
3
4
5
6
7
8
9
10
TO FU-11 BOARD CN 6
TO AF-1 BOARD CN602
FULL ERASE HEAD
C302 (BLK)
CN301 (RED)
AUDIO HEAD CH-1
J502
CH1
LINE OUT
CH2
CH1
LINE IN
CH2
TO CAMERA CONNECTOR
TO TU-33 BOARD CN12
1-610-059
AUDIO DUB BIAS
REC BIAS
BIAS TRAP
REC LEVEL
S-82
CN104 (WHT)
CN501 (RED)
CN106 (WHT)
CN105 (BLK)
CN504 (WHT)
CN503 (YEL)
CN102 (RED)
CN103 (BLK)
CN108 (WHT)
CN502 (RED)
CN505 (RED)
CN101 (WHT)
CN107 (YEL)
CN506 (WHT)
TO CH-
TO AF-I CN60
TO SS-I CN609
TO SW- CN2
TO SW- CN1
TO SR-I
TO VI-1 BOARD CN16
TO SS-14 BOARD CN613
TO VI-1 BOARD CN902

no mark: βHIFI βIII REC mode
( ): βHIFI βIII PB mode
⟨ ⟩: βIII REC mode
[ ]: βIII PB mode

CN104 — TO FU-11 BOARD CN 6

BRN	Vcc	1
RED	VEE	2
WHT	CH-1 OUT	3
RED	CH-2 OUT	4
–	GND	5

CN501 — TO AF-1 BOARD CN602

WHT	CH-1 IN	1
RED	CH-2 IN	2
–	GND	3
WHT	REC CH-1 OUT	4
RED	REC CH-2 OUT	5
–	GND	6
VIO	METER CH-1	7
GRY	METER CH-2	8
WHT	GND	9
		10

CN302

RED	FULL ERASE HD(X)	1
WHT	FULL ERASE HD(Y)	2
–	FULL ERASE HD(G)	3

CN301

BLK	GND	4
–	AUDIO HD 1CH(G)	3
WHT	AUDIO HD 1CH(Y)	2
RED	AUDIO HD 1CH(X)	1

CN106 — TO CAMERA CONNECTOR

WHT	CH-1 OUT	1
RED	CH-2 OUT	2
–	GND	3
WHT	CH-1 IN	4
RED	CH-2 IN	5
–	GND	6

CN105 — TO TU-33 BOARD CN12

WHT	CH-1 OUT	1
RED	CH-2 OUT	2
–	GND	3
WHT	CH-1 IN	4
RED	CH-2 IN	5
–	GND	6
VIO	LINE	7
GRY	CAMERA	8
BRN	BILINGUAL	9
RED	LED DRIVE	10

CN108

1	S.B CONT	BRN
2	GND	RED

CN502

1	AF	BRN
2	AF MUTE	RED

CN505

1	SWD 12V	BRN
2	UNSWD 12V	RED
3	GND(12V)	ORG
4	9V	YEL
5	GND(9V)	PIN

CN101

1	12V	BRN
2	LINE	RED
3	CAMERA	ORG
4	BNR	YEL
5	MANU/AUTO	PINK
6	AF MAIN	BLU
7	AF SUB	VIO
8	AF OFF	GRY
9	OFF	WHT
10	STEREO	BLK

CN107

1	L + R	BRN
2	R	RED

CN506

1	−12V	BLU
2	GND	BLK

CN503 — TO VI-1 BOARD CN16

1	CAMERA	BRN
2	LINE	RED
3	I	ORG
4	II	YEL
5	III	PINK
6	9V	BLU
7	GND	VIO
8		

CN504 — TO SS-14 BOARD CN613

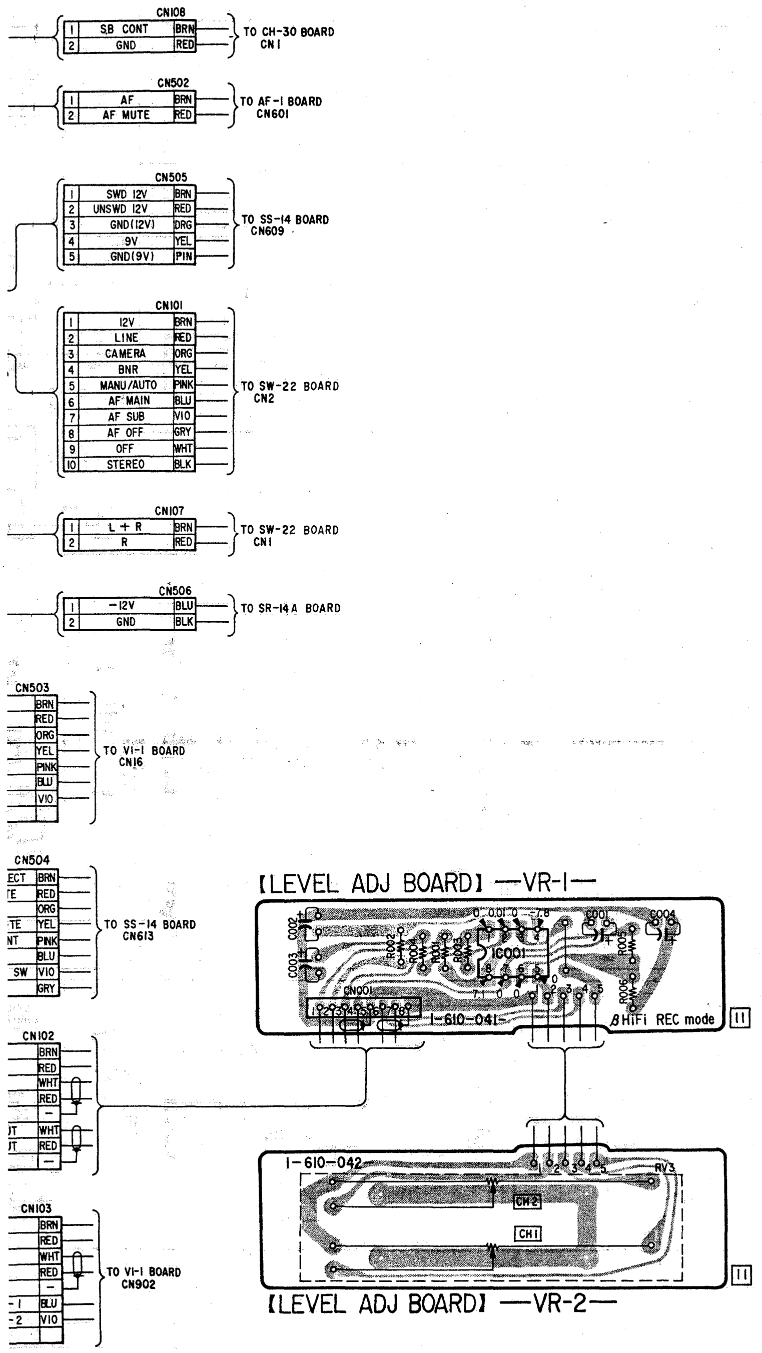
1	CAMERA SELECT	BRN
2	CAMERA MUTE	RED
3	AUDIO PB	ORG
4	AUDIO MUTE	YEL
5	BIAS CONT	PINK
6	DUB L	BLU
7	CASSETTE IN SW	VIO
8	REC 1	GRY

CN102

1	Vcc	BRN
2	VEE	RED
3	CH-1 IN	WHT
4	CH-2 IN	RED
5	GND	–
6	CH-1 OUT	WHT
7	CH-2 OUT	RED
8	GND	–

CN103 — TO VI-1 BOARD CN902

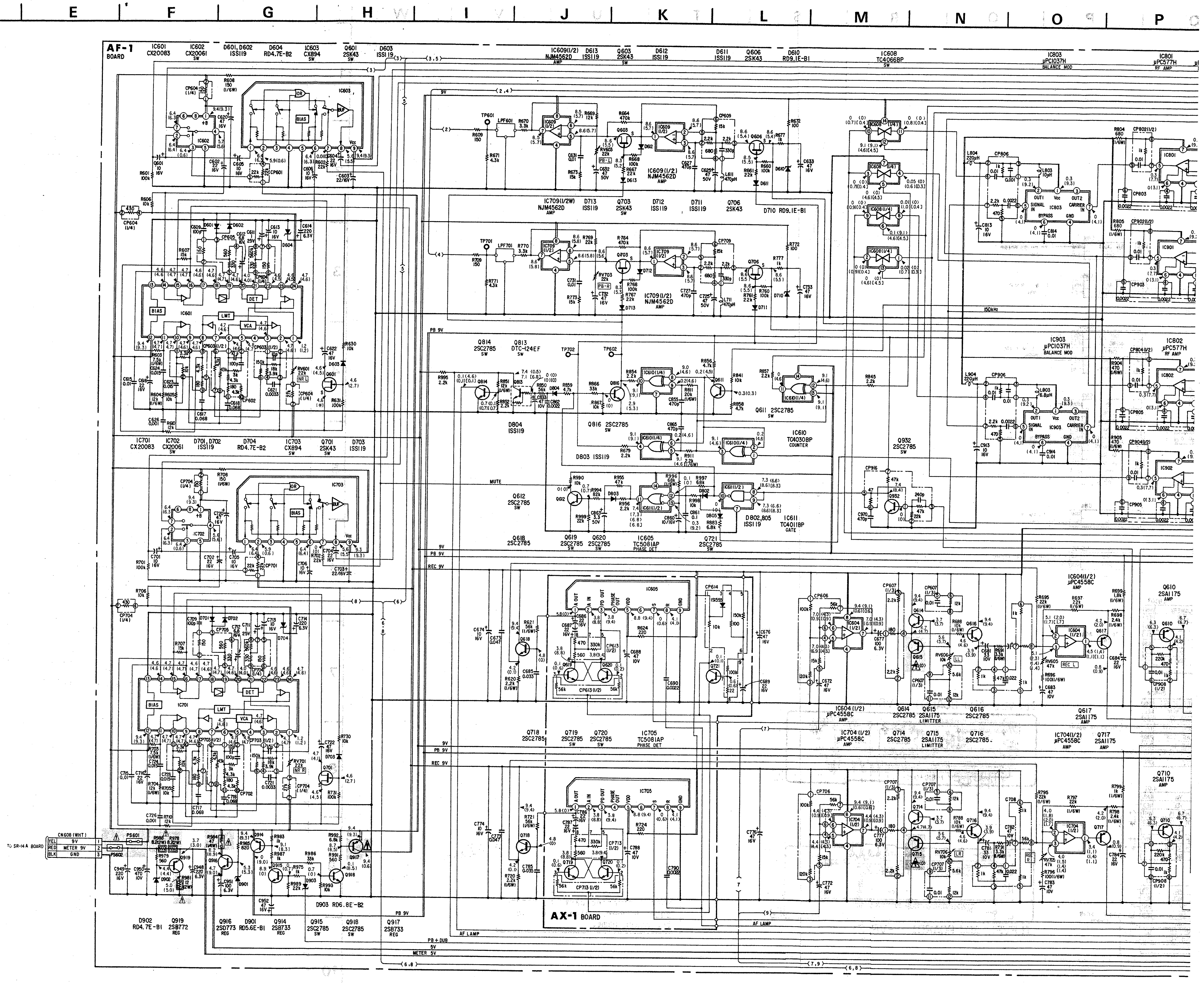
1	Vcc	BRN
2	VEE	RED
3	CH-1	WHT
4	CH-2	RED
5	GND	–
6	MIC CH-1	BLU
7	MIC CH-2	VIO
8		


CN108
1 S.B CONT BRN
2 GND RED
TO CH-30 BOARD CN1
CN502
1 AF BRN
2 AF MUTE RED
TO AF-1 BOARD CN601
CN505
1 SWD 12V BRN
2 UNSWD 12V RED
3 GND(12V) ORG
4 9V YEL
5 GND(9V) PIN
TO SS-14 BOARD CN609
CN101
1 12V BRN
2 LINE RED
3 CAMERA ORG
4 BNR YEL
5 MANU/AUTO PINK
6 AF MAIN BLU
7 AF SUB VIO
8 AF OFF GRY
9 OFF WHT
10 STEREO BLK
TO SW-22 BOARD CN2
CN107
1 L + R BRN
2 R RED
TO SW-22 BOARD CN1
CN506
1 -12V BLU
2 GND BLK
TO SR-14A BOARD
CN503
BRN
RED
ORG
YEL
PINK
BLU
VIO
TO VI-1 BOARD CN16
CN504
ECT BRN
TE RED
ORG
TE YEL
NT PINK
BLU
SW VIO
GRY
TO SS-14 BOARD CN613
CN102
BRN
RED
WHT
RED
-
JT WHT
JT RED
-
CN103
BRN
RED
WHT
RED
-
-1 BLU
-2 VIO
TO VI-1 BOARD CN902
【LEVEL ADJ BOARD】 —VR-1—
C002
C003
R002
R004
R001
R003
IC001
C001
C004
R005
R006
0 0.01 0 -7.8
7.1 0 0 0
CN001
1 2 3 4 5 6 7 8
1 2 3 4 5
1-610-041
β HiFi REC mode
11
1-610-042
1 2 3 4 5
RV3
CH2
CH1
11
【LEVEL ADJ BOARD】 —VR-2—

When indicating parts by reference number, please include the board name.

4-8. AF-1, IS-1 (AFM), DD-1 (LEVEL METER DRIVE), HF-1 (βHIFI IND), AX-1 (PHASE COMPARISON) BOARDS SCHEMATIC DIAGRAM

– Ref. No. AF-1 BOARD : 4000 series, DD-1 BOARD : 5100 series, IS-1 BOARD : 5200 series, HF-1 BOARD : 5300 series, AX-1 BOARD : 4000 series –


A
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G
H
I
J
K
L
M
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1
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5
6
7
8
9
10
AF-1 BOARD
IC601 CX20083
IC602 CX20061 SW
D601, D602 ISS119
D604 RD4.7E-B2
IC603 CX894 SW
Q601 2SK43 SW
D603 ISS119
IC609(1/2) NJM4562D AMP
D613 ISS119
Q603 2SK43 SW
D612 ISS119
D611 ISS119
Q606 2SK43
D610 RD9.1E-B1
IC608 TC4066BP SW
IC803 μPC1037H BALANCE MOD
IC801 μPC577H RF AMP
IC701 CX20083
IC702 CX20061 SW
D701, D702 ISS119
D704 RD4.7E-B2
IC703 CX894 SW
Q701 2SK43 SW
D703 ISS119
IC709(1/2W) NJM4562D AMP
D713 ISS119
Q703 2SK43 SW
D712 ISS119
D711 ISS119
Q706 2SK43
D710 RD9.1E-B1
Q814 2SC2785 SW
Q813 DTC-124EF SW
TP702
TP602
Q611 2SC2785 SW
IC610 TC4030BP COUNTER
Q816 2SC2785
D804 ISS119
D803 ISS119
Q932 2SC2785 SW
IC903 μPC1037H BALANCE MOD
IC802 μPC577H RF AMP
MUTE
Q612 2SC2785 SW
D802, 805 ISS119
IC611 TC4011BP GATE
Q618 2SC2785
Q619 2SC2785 SW
Q620 2SC2785 SW
IC605 TC5081AP PHASE DET
Q721 2SC2785 SW
IC604(1/2) μPC4558C
Q610 2SA1175
IC604(1/2) μPC4558C AMP
Q614 2SC2785
Q615 2SA1175 LIMITTER
Q616 2SC2785
Q617 2SA1175 AMP
Q718 2SC2785
Q719 2SC2785 SW
Q720 2SC2785 SW
IC705 TC5081AP PHASE DET
IC704(1/2) μPC4558C AMP
Q714 2SC2785
Q715 2SA1175 LIMITTER
Q716 2SC2785
IC704(1/2) μPC4558C AMP
Q717 2SA1175 AMP
Q710 2SA1175 AMP
AX-1 BOARD
TO SR-14A BOARD
CN608 (WHT)
YEL 9V
RED METER 9V
BLK GND
D902 RD4.7E-B1
Q919 2SB772 REG
Q916 2SD773 REG
D901 RD5.6E-B1
Q914 2SB733 REG
Q915 2SC2785 SW
Q918 2SC2785 SW
Q917 2SB733 REG
D903 RD6.8E-B2
PB 9V
REC 9V
9V
AF LAMP
PB+DUB
5V
METER 5V
150kHz

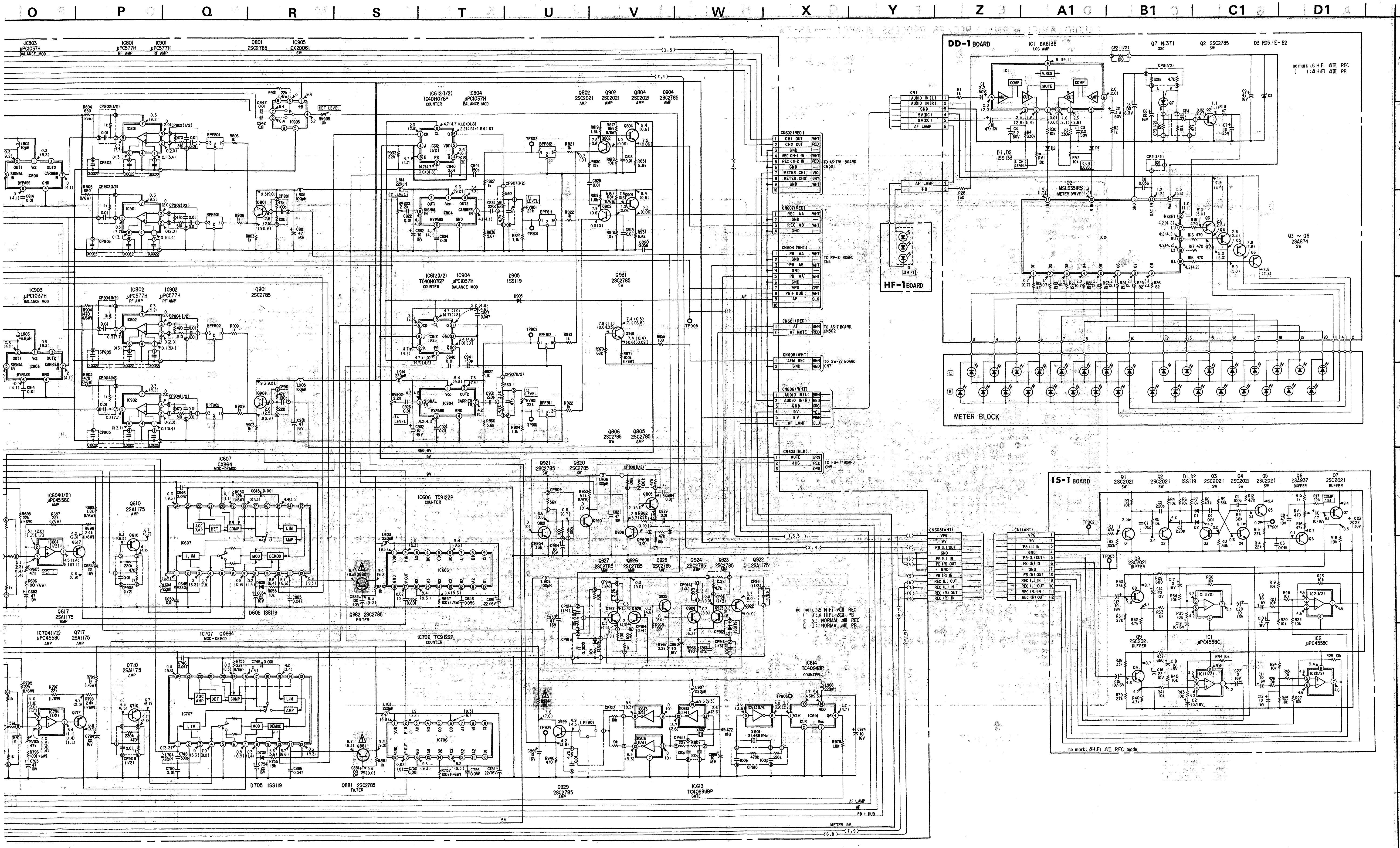
- Resistors on the IS-1 board is in ohms, 1/6W unless otherwise noted.
- Resistors on the other boards are in ohms, 1/8W unless otherwise noted.
  kΩ : 1000Ω, MΩ : 1000kΩ
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ▭ : nonflammable resistor.
- The red lines show the main voltages.
- All voltages are dc measured with a VOM (10 MΩ/V).

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

AUDIO AUDIO



O
P
Q
R
S
T
U
V
W
X
Y
Z
A1
B1
C1
D1
1
2
3
4
5
6
7
8
9
10
IC803 μPC1037H BALANCE MOD
IC801 μPC577H RF AMP
IC901 μPC577H RF AMP
Q801 2SC2785
IC905 CX20061 SW
DET LEVEL
RV905
IC612(1/2) TC40H076P COUNTER
IC804 μPC1037H BALANCE MOD
Q802 2SC2021 AMP
Q902 2SC2021 AMP
Q804 2SC2021 AMP
Q904 2SC2785 AMP
IC903 μPC1037H BALANCE MOD
IC802 μPC577H RF AMP
IC902 μPC577H RF AMP
Q901 2SC2785
IC612(2/2) TC40H076P COUNTER
IC904 μPC1037H BALANCE MOD
D905 1SS119
Q931 2SC2785 SW
Q806 2SC2785 SW
Q805 2SC2785 AMP
F2 LEVEL
F1 LEVEL
F4 LEVEL
F3 LEVEL
BPF801
BPF901
BPF802
BPF902
BPF812
BPF811
BPF912
BPF911
TP802
TP801
TP902
TP901
TP905
CN602 (RED)
CH1 OUT
CH2 OUT
GND
REC CH-1 IN
REC CH-2 IN
METER CH1
METER CH2
TO AS-7W BOARD CN501
CN607 (RED)
REC AA
REC AB
CN604 (WHT)
PB AA
PB AB
PB AA'
VPG
PB + DUB
AF
TO RP-10 BOARD CN4
CN601 (RED)
AF MUTE
TO AS-7 BOARD CN502
CN605 (WHT)
AFM REC
TO SW-22 BOARD CN7
CN606 (WHT)
AUDIO IN (L)
AUDIO IN (R)
5V
9V
AF LAMP
CN603 (BLK)
MUTE
JOG
TO FU-11 BOARD CN5
DD-1 BOARD
IC1 BA6138 LOG AMP
Q7 NI3TI OSC
Q2 2SC2785
D3 RD5.1E-B2
no mark : ß HiFi ßIII REC
( ) : ß HiFi ßIII PB
COMP
V.REG
MUTE
CN1
5V (DC)
9V (DC)
D1, D2 1SS133
L CH LEVEL
R CH LEVEL
RV1
RV2
IC2 MSL935IRS METER DRIVE
RESET
Q3 ~ Q6 2SA874 SW
HF-1 BOARD
D1 (ß HiFi)
METER BLOCK
IC607 CX864 MOD-DEMOD
IC604(1/2) μPC4558C
Q610 2SA1175 AMP
AGC AMP
DET
LIM
I, IM
MOD
DEMOD
REC L
Q617 2SA1175
D605 1SS119
IC606 TC9122P COUNTER
Q882 2SC2785 FILTER
Q921 2SC2785 SW
Q920 2SC2785 SW
CP808(1/2)
Q927 2SC2785 AMP
Q926 2SC2785 AMP
Q925 2SC2785 AMP
Q924 2SC2785 AMP
Q923 2SC2785 AMP
Q922 2SA1175
no mark : ß HiFi ßIII REC
( ) : ß HiFi ßIII PB
[ ] : NORMAL ßII REC
{ } : NORMAL ßII PB
IC704(1/2) μPC4558C AMP
Q717 2SA1175 AMP
IC707 CX864 MOD-DEMOD
Q710 2SA1175 AMP
D705 1SS119
IC706 TC9122P COUNTER
Q881 2SC2785 FILTER
IC614 TC4024BP COUNTER
Q929 2SC2785 AMP
IC613 TC4069UBP GATE
LPF901
X601 31.468 kHz
TP903
TP904
AF LAMP
AF
PB + DUB
METER 5V
REC-9V
5V
9V
CN608 (WHT)
PB (L) OUT
PB (R) OUT
REC (L) IN
REC (R) IN
REC (L) OUT
REC (R) OUT
CN11 (WHT)
PB (L) IN
PB (R) IN
IS-1 BOARD
Q1 2SC2021 SW
Q2 2SC2021 SW
D1, D2 1SS119
Q3 2SC2021 SW
Q4 2SC2021 SW
Q5 2SC2021 SW
Q6 2SA937 BUFFER
Q7 2SC2021 BUFFER
TP002
TP001
TP003
Q8 2SC2021 BUFFER
IC1 μPC4558C
IC2 μPC4558C
Q9 2SC2021 BUFFER
COMP ADJ
no mark : ß HiFi ßIII REC mode

AF-1, IS-1 (AFM), DD-1 (LEVEL METER DRIVE), HF-1 (βHIFI IND), AX-1 (PHASE COMPARISON) PRINTED WIRING BOARDS

– Ref. No. AF-1 BOARD : 4000 series, DD-1 BOARD : 5100 series, IS-1 BOARD : 5200 series, HF-1 BOARD : 5300 series, AX-1 BOARD : 4000 series –

[AFM] –AF-1–

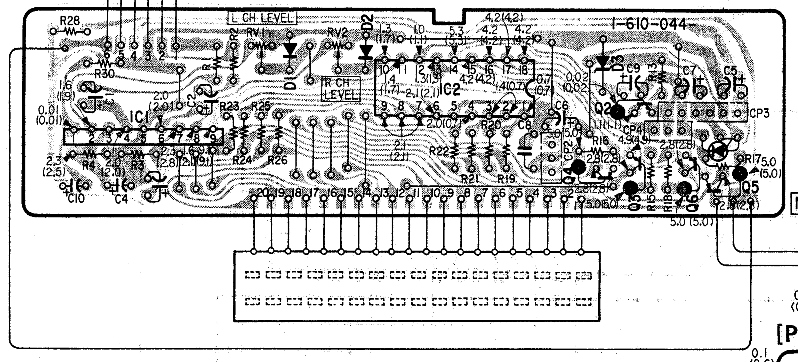
	J	K	L	M	N	O	P
Q·IC	601 701 IC701 IC601 IC602 IC603 IC702 IC703	916 914	915 919, 918 IC604 IC704 IC609 IC709 603 703 917 617 717	931 614 615 714 715 606 706 IC614 IC613 929 616 618 716 718	881 882 816 612 IC607 IC707 IC611 IC610	814 813 805 806 610 710 IC902 IC612 901 IC608 IC606 IC706	IC802 IC904 IC804
D	604 602 603 601 704 703 702 701		901 613 713 902 903	612 712 611 711 610 710	605 705 802 905 803	804 805	
ADJ·TP		RV601 RV701 TP601 TP701 TP600	RV603 RV703 TP602 RV605 RV705	TP904 RV606 RV706	TP903 TP702	RV802 RV902	RV801 RV901

	D	E	F	G	H
Q·IC	IC1		IC2 4	2 3 6 5 619 IC605	620 721 720 719 IC705
D		1 2	3		1
ADJ		RV1 RV2			

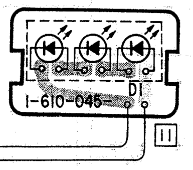
no mark : βHiFi βIII REC mode
( ) : βHiFi βIII PB mode

BLU	AF LAMP	6
PINK	9V	5
YEL	5V	4
ORG	GND	3
RED	AUDIO (R)	2
BRN	AUDIO (L)	1

[LEVEL METER DRIVE] –DD-1–

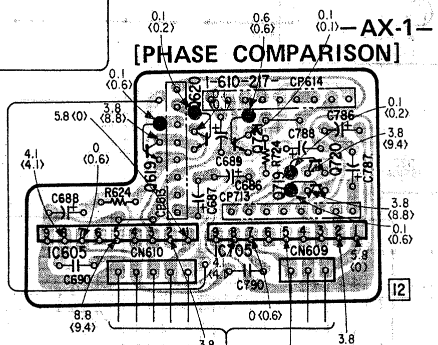

1-610-044-
L CH LEVEL
R CH LEVEL
RV1
RV2
IC1
IC2
CP3
11

[βHIFI IND] – HF-1 –


1-610-045-
D1
11

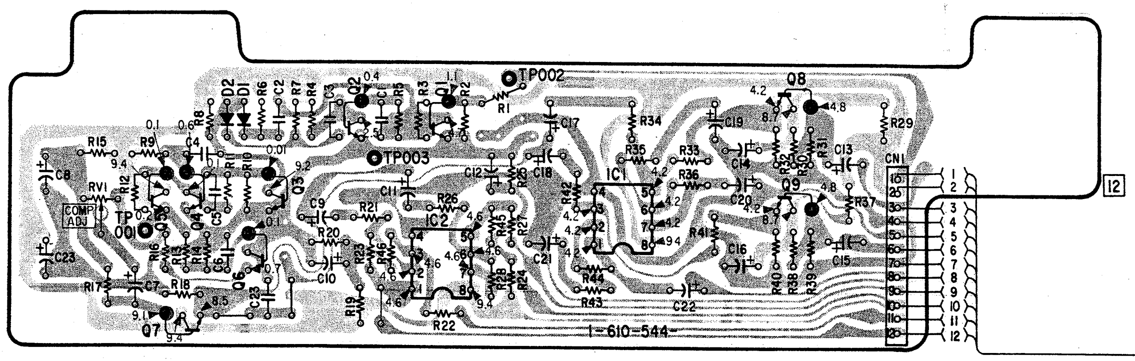
–AX-1– [PHASE COMPARISON]

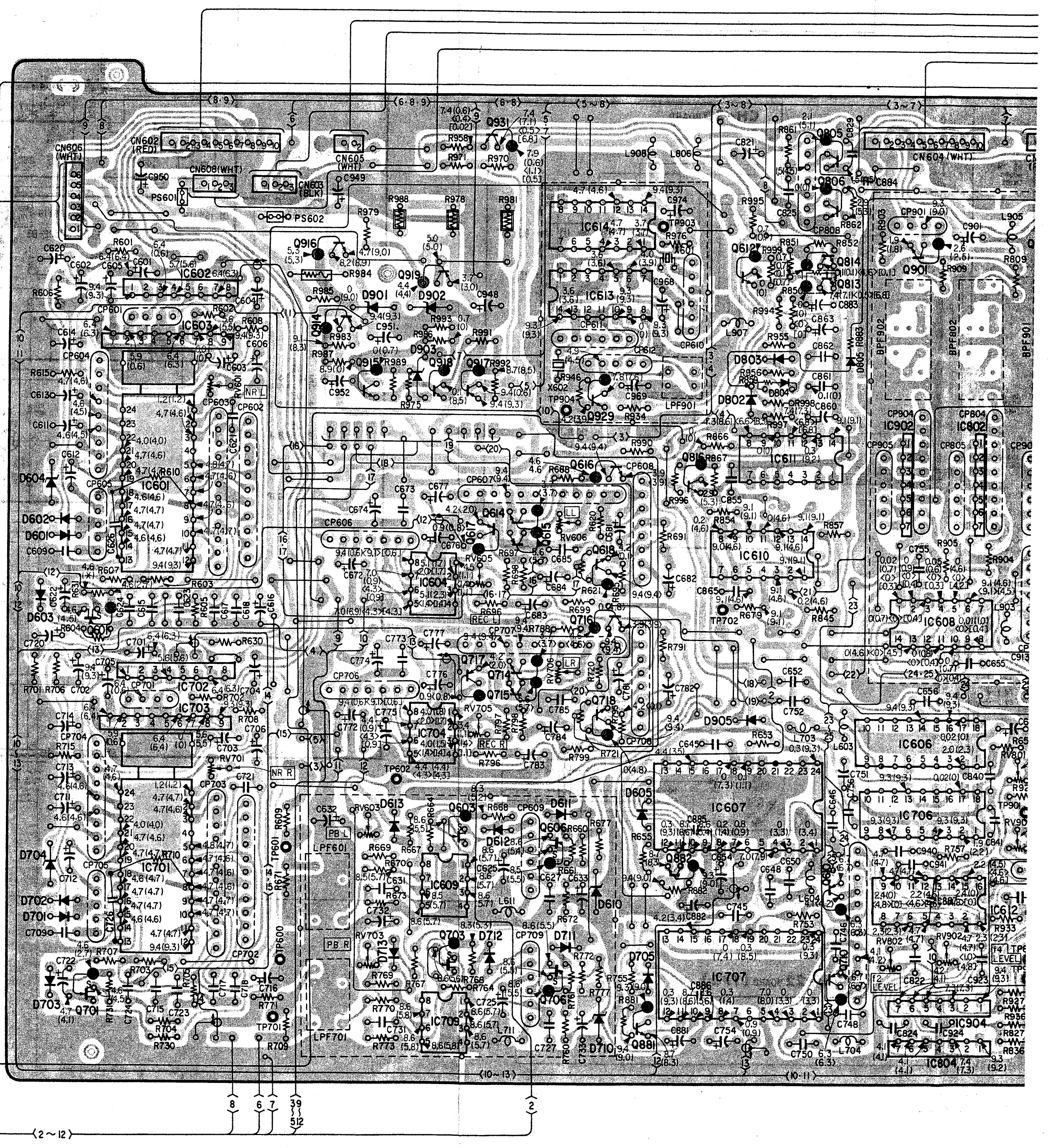
no mark : βHiFi βIII REC mode
( ) : βHiFi βIII PB mode
〈 〉 : NORMAL βIII REC mode
[ ] : NORMAL βIII PB mode


1-610-217-
CP614
IC605
CN610
IC705
CN609
C690
C790
12

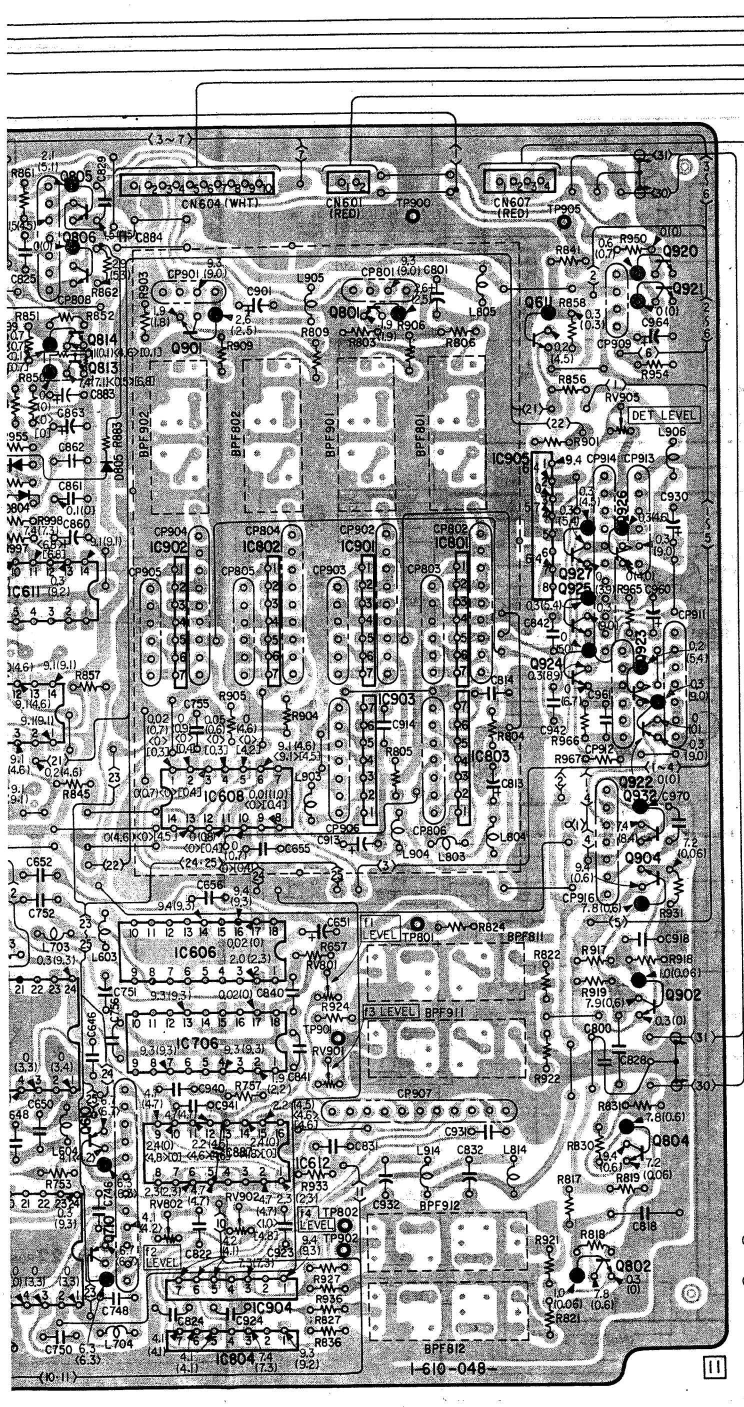
[AFM] –IS-1–

	C	D	E	F	G
Q·IC		5 4 7 6 3 2	1 IC2	IC1	8 9
D		2 1			
ADJ·TP	RV1	TP001	TP003 TP002		


1-610-544-
TP001
TP002
TP003
COMP ADJ
RV1
IC1
IC2
CN1
12


CN606 (WHT)
CN602 (RED)
CN608 (WHT)
CN603 (BLK)
CN605 (WHT)
CN604 (WHT)
PS601
PS602
IC601
IC602
IC603
IC604
IC605
IC606
IC607
IC608
IC610
IC611
IC613
IC614
IC701
IC702
IC703
IC704
IC706
IC707
IC802
IC902
IC904
LPF601
LPF701
LPF901
BPF901
BPF902
TP600
TP601
TP602
TP701
TP702
TP903
TP904
(2 ~ 12)

C611 610 814 813 805 806 610 710 901 IC902 IC612 IC608 IC606 IC706 IC802 IC904 IC804 IC901 IC903 801 IC801 IC803 611 IC905 927 925 924 802 926 932 904 902 920 921 923 922 804
03 804 805
RV802 RV902 RV801 RV901 TP901 TP802 TP902 TP900 TP801 TP905 RV905


CN604 (WHT)
CN601 (RED)
TP900
CN607 (RED)
TP905
Q805
Q806
Q814
Q813
Q901
Q801
Q611
Q920
Q921
Q927
Q924
Q922
Q932
Q904
Q902
Q804
Q802
IC611
IC902
IC802
IC901
IC801
IC903
IC803
IC608
IC606
IC706
IC612
IC604
IC905
BPF802
BPF902
BPF901
BPF801
BPF811
BPF911
BPF912
BPF812
DET LEVEL
F3 LEVEL
F4 LEVEL
TP801
TP802
TP902
RV801
RV901
RV905
1-610-048-
11

1	CH-1 OUT	WHT	TO AS-7W BOARD CN501
2	CH-2 OUT	RED	
3	GND	—	
4	REC CH-1 IN	WHT	
5	REC CH-2 IN	RED	
6	GND	—	
7	METER CH-1	VIO	
8	METER CH-2	GRY	
9	GND	WHT	
10			

1	AFM REC	BRN	TO SW-22 BOARD CN7
2	GND	RED	

1	AFM VTR	BRN	TO FU-11 BOARD CN5
2	JOG	RED	
3		ORG	

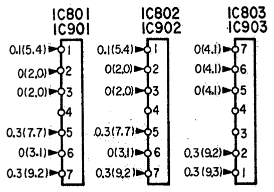
1	9V	YEL	TO SR-14A BOARD
2	METER 9V	YEL	
3	GND	BLK	

1	PB AA	WHT	TO RP-10 BOARD CN4
2	GND	—	
3	PB AB	WHT	
4	GND	—	
5	PB AA'	WHT	
6	GND	—	
7	V. PG	GRY	
8	PB + DUB	WHT	
9	AF	BLK	
10			

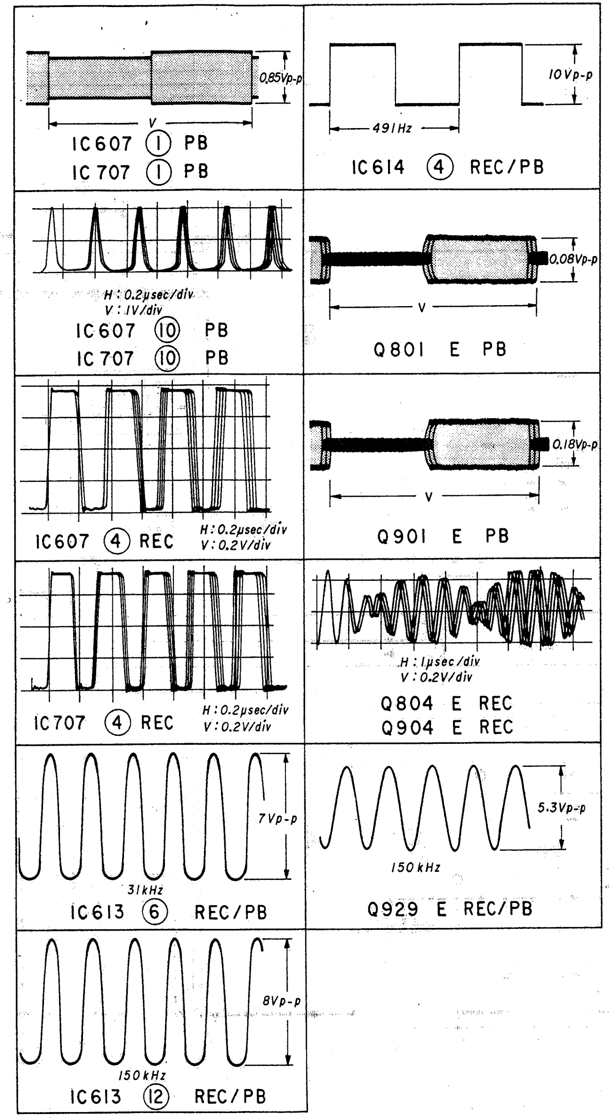
1	AF	BRN	TO AS-7W BOARD CN502
2	AF MUTE	RED	

1	REC AA	WHT	TO RP-10 BOARD CN4
2	GND	—	
3	REC AB	WHT	
4	GND	—	

no mark: β HiFi βⅢ REC mode
( ): β HiFi βⅢ PB mode
< >: NORMAL βⅢ REC mode
[ ]: NORMAL βⅢ PB mode


IC801
IC901
0.1(5.4) 1
0(2.0) 2
0(2.0) 3
4
0.3(7.7) 5
0(3.1) 6
0.3(9.2) 7
IC802
IC902
0.1(5.4) 1
0(2.0) 2
0(2.0) 3
4
0.3(7.7) 5
0(3.1) 6
0.3(9.2) 7
IC803
IC903
0(4.1) 7
0(4.1) 6
0(4.1) 5
4
3
0.3(9.2) 2
0.3(9.3) 1

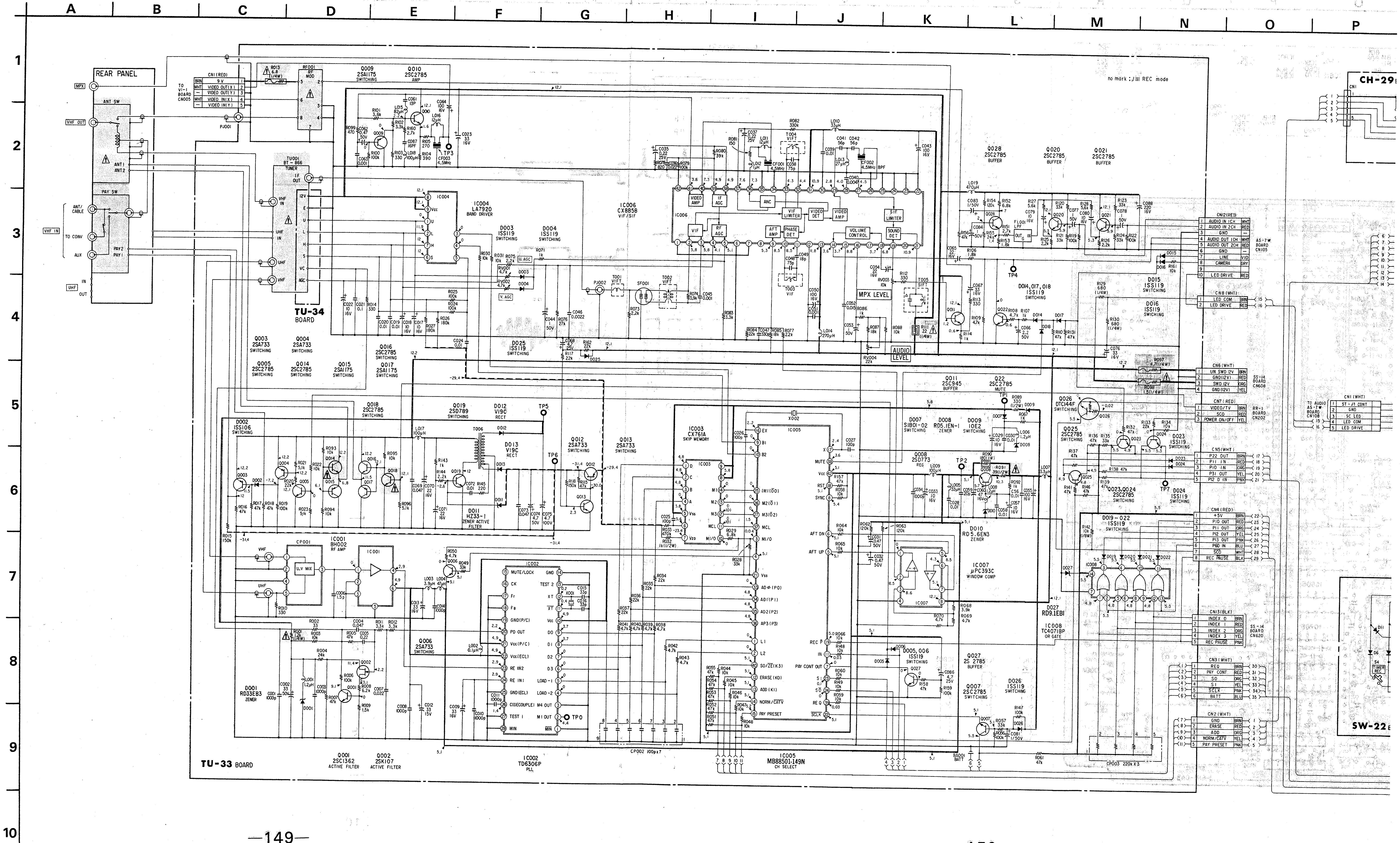
AF-1 BOARD



When indicating parts by reference number, please include the board name.

4-9. TU-33, TU-34 (TUNER), CH-29, CH-30, SW-22, TIMER BOARDS SCHEMATIC DIAGRAM

– Ref. No. TU-33 BOARD : 10000 series, CH-29 BOARD : 11000 series, CH-30 BOARD : 12000 series, SW-22 BOARD : 7500 series, TIMER BOARD : 13000 series –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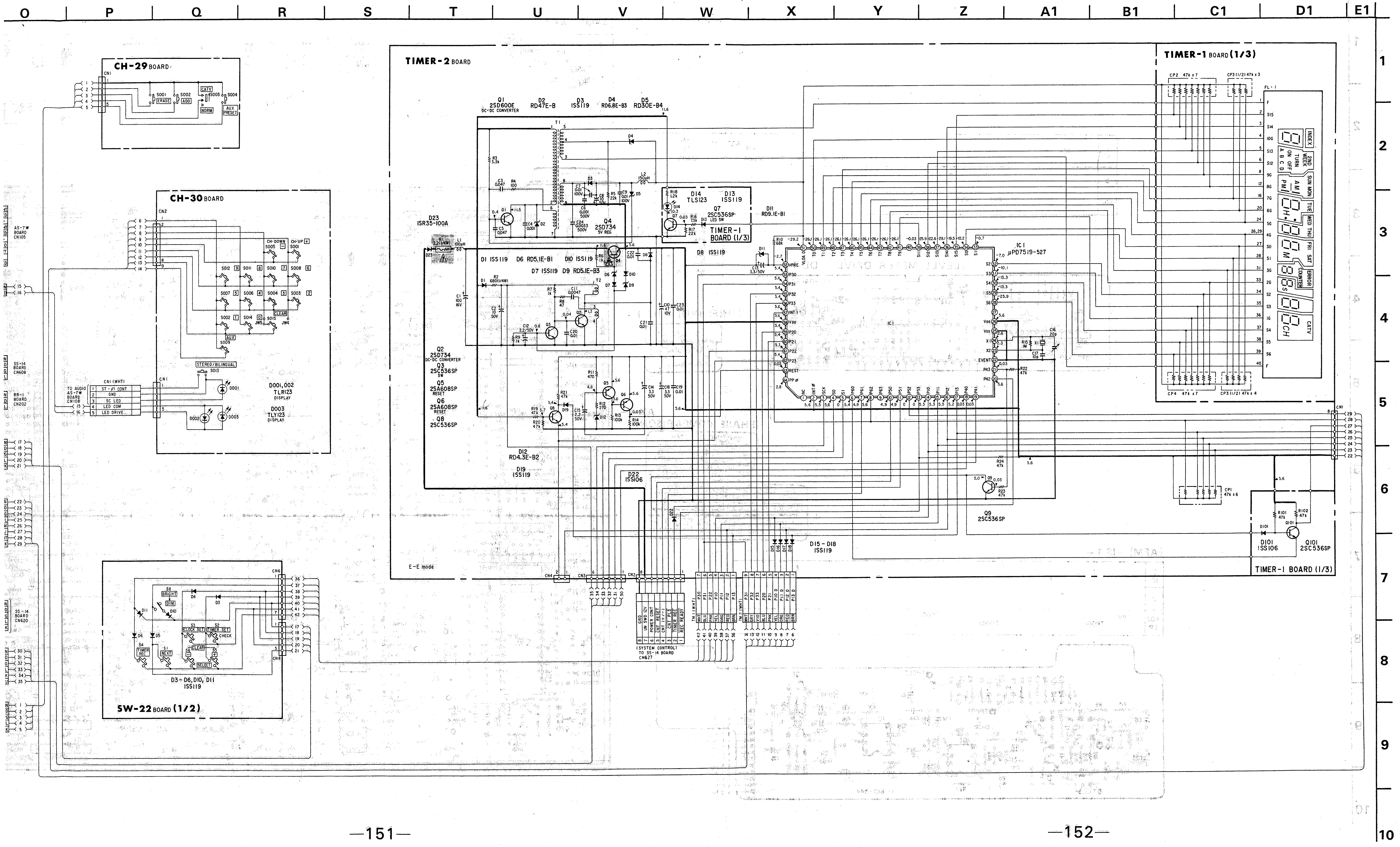
REAR PANEL
MPX
VHF OUT
ANT SW
ANT1
ANT2
PAY SW
VHF IN
TO CONV
AUX
UHF
TO VI-1 BOARD CN005
CN1 (RED)
9V
VIDEO OUT(X)
VIDEO OUT(Y)
VIDEO IN(X)
VIDEO IN(Y)
PJ001
RF001 RF MOD
Q009 2SA1175 SWITCHING
Q010 2SC2785 AMP
TU001 BT-866 TUNER
TU-34 BOARD
IC004 LA7920 BAND DRIVER
D003 1SS119 SWITCHING
D004 1SS119 SWITCHING
IC006 CX885B VIF/SIF
VIDEO AMP
IF AGC
ANC
VIF LIMITER
VIDEO DET
VIDEO AMP
SIF LIMITER
VIF
RF AGC
AFT AMP
PHASE DET
VOLUME CONTROL
SOUND DET
SF001
T001 VIFT
T002 VIFT
T003 VIF
T004 VIFT
T005 SIFT
MPX LEVEL
AUDIO LEVEL
TP3
TP4
Q003 2SA733 SWITCHING
Q004 2SA733 SWITCHING
Q005 2SC2785 SWITCHING
Q014 2SC2785 SWITCHING
Q015 2SA1175 SWITCHING
Q016 2SC2785 SWITCHING
Q017 2SA1175 SWITCHING
D025 1SS119 SWITCHING
Q028 2SC2785 BUFFER
Q020 2SC2785 BUFFER
Q021 2SC2785 BUFFER
no mark : ⅡⅢ REC mode
D014,017,018 1SS119 SWITCHING
D015 1SS119 SWITCHING
D016 1SS119 SWITCHING
CN12(RED)
AUDIO IN 1CH
AUDIO IN 2CH
GND
AUDIO OUT 1CH
AUDIO OUT 2CH
GND
LINE
CAMERA
LED DRIVE
AS-7W BOARD CN105
CN8 (WHT)
LED COM
LED DRIVE
CN6 (WHT)
UN SWD 12V
GND(12V)
SWD 12V
GND(12V)
SS-14 BOARD CN608
CN7 (RED)
VIDEO/TV
SCD
POWER ON/OFF
RR-1 BOARD CN202
CN1 (WHT)
ST-J1 CONT
GND
SC LED
LED COM
LED DRIVE
TO AUDIO AS-7W BOARD CN106
CH-29
Q002 1SS106 SWITCHING
Q018 2SC2785 SWITCHING
Q019 2SD789 SWITCHING
D012 V19C RECT
D013 V19C RECT
D011 HZ33-1 ZENER ACTIVE FILTER
TP5
TP6
Q012 2SA733 SWITCHING
Q013 2SA733 SWITCHING
IC003 CX761A SKIP MEMORY
IC005
X002
Q011 2SC945 BUFFER
Q22 2SC2785 MUTE
TP1
Q026 DTC144F SWITCHING
Q025 2SC2785 SWITCHING
D007 S1B01-02 SWITCHING
D008 RD5.1EN-1 ZENER
D009 10E2 SWITCHING
Q008 2SD773 REG
TP2
TP7
Q023,Q024 2SC2785 SWITCHING
D023 1SS119 SWITCHING
CN5(WHT)
P22 OUT
P11 IN
P10 IN
P31 OUT
P12 D IN
D019~022 1SS119 SWITCHING
CN4 (RED)
+5V
P10 OUT
P11 OUT
P12 OUT
P13 OUT
P60 IN
SCD
REC PAUSE
IC008 TC4071BP OR GATE
D027 RD9.1EB1
CN13(BLK)
INDEX 0
INDEX 1
INDEX 2
INDEX 3
REC PAUSE
SS-14 BOARD CN620
CN3 (WHT)
REC
PAY CONT
SO
S1
SCLK
BATT
CN2 (WHT)
GND
ERASE
ADD
NORM/CATV
PAY PRESET
SW-22
TIMER REC
CP001 U.V MIX
IC001 BH002 RF AMP
Q006 2SA733 SWITCHING
IC002
MUTE/LOCK
CK
Fr
Fs
GND(P/C)
PD OUT
Vcc(P/C)
Vcc(ECL)
RE IN2
RE IN1
GND(ECL)
C(DECOUPLE)
TEST 1
MIN
TEST 2
XT
Vcc
D0
D1
D2
D3
LOAD-1
LOAD-2
M4 OUT
M1 OUT
TP0
CP002 100p×7
IC007 µPC393C WINDOW COMP
D010 RD5.6EN3 ZENER
D005,006 1SS119 SWITCHING
Q027 2SC2785 BUFFER
Q007 2SC2785 SWITCHING
D026 1SS119 SWITCHING
BA001 BATT
CP003 220k×3
D001 RD33EB3 ZENER
Q001 2SC1362 ACTIVE FILTER
Q002 2SK107 ACTIVE FILTER
IC002 TD6306P PLL
IC005 MB88501-149N CH SELECT
TU-33 BOARD

TUNER/TIMER TUNER/TIMER



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A1
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C1
D1
E1
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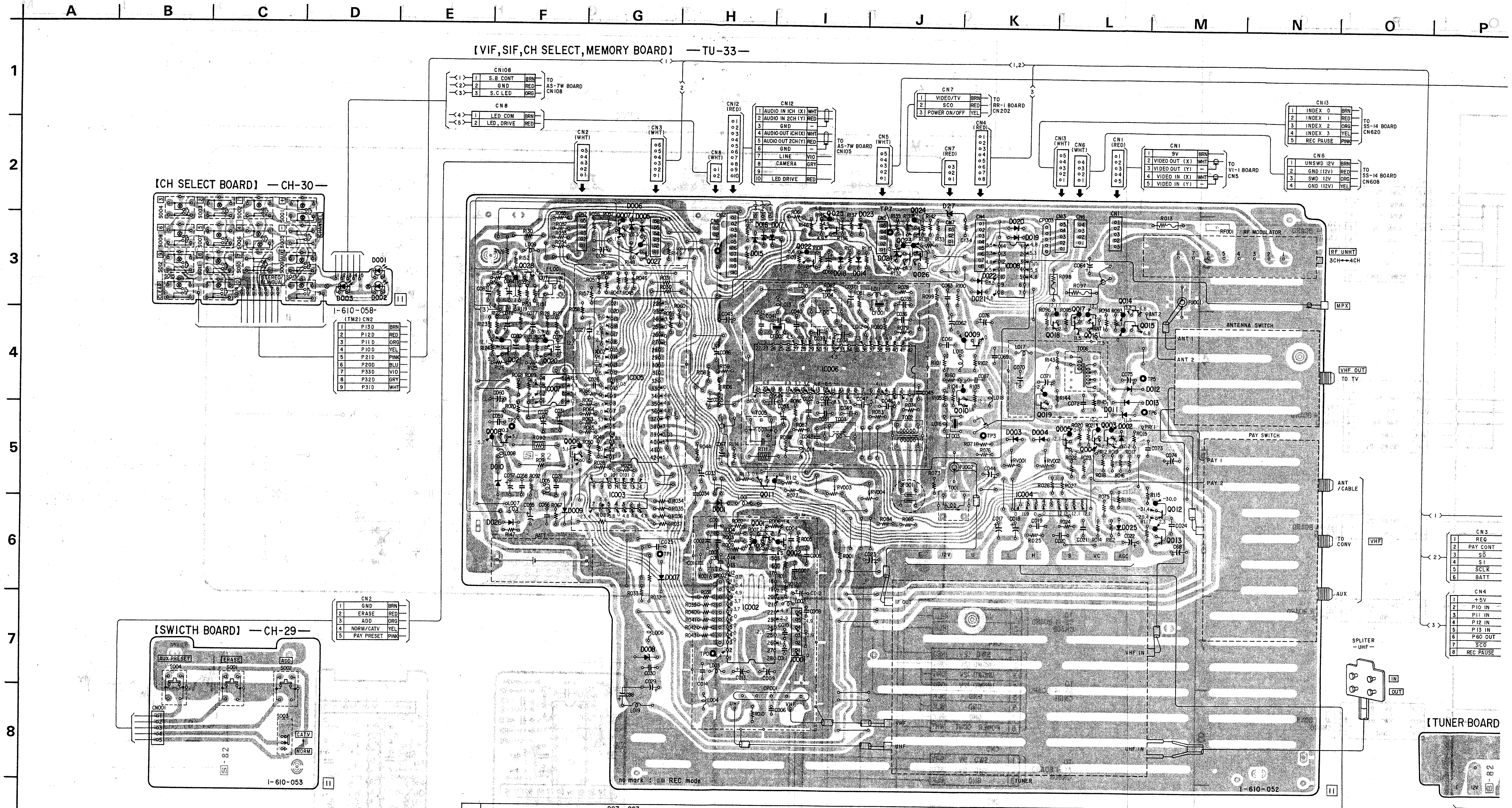
10
CH-29 BOARD
CN1
S001 ERASE
S002 ADD
S003 CATV NORM
S004 AUX PRESET
CH-30 BOARD
CN2
AS-7W BOARD CN105
CH-DOWN S005
CH-UP S001
S012
S011
S010
S008
S007
S006
S004
S003
S002
S014
S015
CLEAR
AUX
S009
JW3
JW4
STEREO/BILINGUAL S013
CN1 (WHT)
TO AUDIO AS-7W BOARD CN108
ST - ø1 CONT
GND
SC LED
LED COM
LED DRIVE
D001, 002 TLR123 DISPLAY
D003 TLY123 DISPLAY
SS-14 BOARD CN608
RR-1 BOARD CN202
SS-14 BOARD CN620
SW-22 BOARD (1/2)
CN6
CN8
S8 BRIGHT DIM
S3 CLOCK SET
S2 TIMER SET CHECK
S4 TIMER REC
S1 NEXT
S6 CLEAR
S5 SELECT
D3 - D6, D10, D11 1SS119
TIMER-2 BOARD
Q1 2SD600E DC-DC CONVERTER
D2 RD47E-B
D3 1SS119
D4 RD6.8E-B3
D5 RD30E-B4
T1
D23 ISR35-100A
R1 2.2Ω (1/4W)
L1 100µH
D1 1SS119
D6 RD5.1E-B1
D10 1SS119
D7 1SS119
D9 RD5.1E-B3
Q4 2SD734 5V REG
Q2 2SD734 DC-DC CONVERTER
Q3 2SC536SP SW
Q5 2SA608SP RESET
Q6 2SA608SP RESET
Q8 2SC536SP
D12 RD4.3E-B2
D19 1SS119
D22 1SS106
D14 TLS123
D13 1SS119
Q7 2SC536SP
TIMER-1 BOARD (1/3)
D11 RD9.1E-B1
D8 1SS119
IC1 µPD7519-527
X1
Q9 2SC536SP
D15 - D18 1SS119
E-E mode
CN4
CN3
CN2
GND
UN SWD 12V
POWER CONT
CNT RESET
CNT (+/-)
CNT PULSE
TIMER REC
REC READY
(SYSTEM CONTROL) TO SS-14 BOARD CN627
TM-1 (WHT)
TM-2 (WHT)
TIMER-1 BOARD (1/3)
CP2 47k x 7
CP3 (1/2) 47k x 3
FL-1
INDEX
2ND WEEK
ON OFF TURN
A B C D
AM PM
SUN MON
TUE
WED THU
FRI SAT
CH
ERROR
COUNTER
CATV
CP4 47k x 7
CP3 (1/2) 47k x 4
CN1
CP1 47k x 6
Q101 2SC536SP
D101 1SS106
R101 47k
R102 47k
TIMER-1 BOARD (1/3)

TU-33, TU-34 (TUNER), CH-29, CH-30, SW-22, TIMER PRINTED WIRING BOARDS

– Ref. No. TU-33 BOARD : 10000 series, CH-29 BOARD : 11000 series, CH-30 BOARD : 12000 series, SW-22 BOARD : 7500 series, TIMER BOARD : 13000 series –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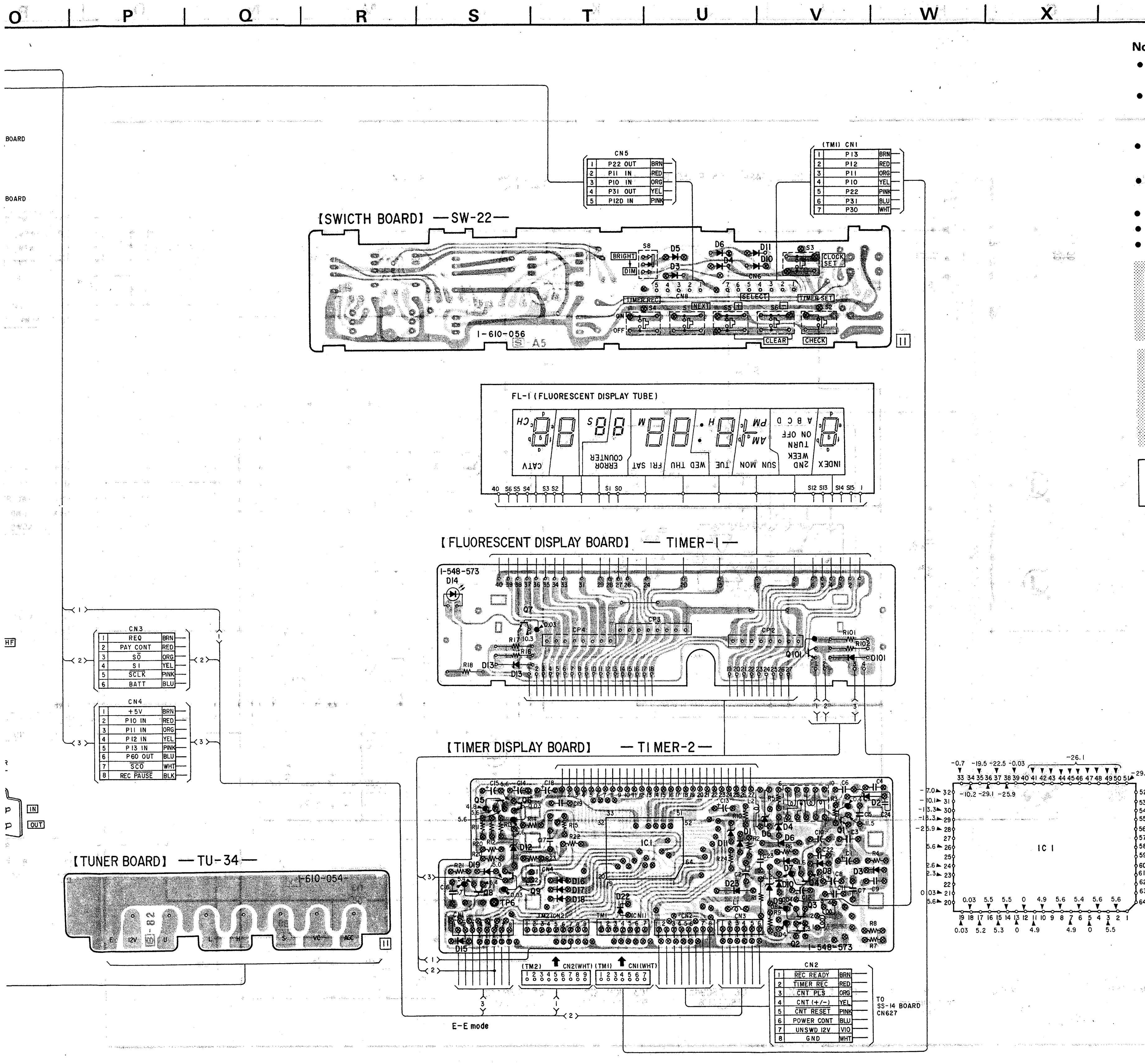
【VIF, SIF, CH SELECT, MEMORY BOARD】 —TU-33—
CN108
1 S.B CONT BRN
2 GND RED
3 S.C LED ORG
TO AS-7W BOARD CN108
CN8
1 LED COM BRN
2 LED, DRIVE RED
CN2 (WHT)
CN3 (WHT)
CN8 (WHT)
CN12 (RED)
CN12
1 AUDIO IN 1CH (X) WHT
2 AUDIO IN 2CH (Y) RED
3 GND –
4 AUDIO OUT 1CH (X) WHT
5 AUDIO OUT 2CH (Y) RED
6 GND –
7 LINE VIO
8 CAMERA GRY
9
10 LED DRIVE RED
TO AS-7W BOARD CN105
CN5 (WHT)
CN7
1 VIDEO/TV BRN
2 SCO RED
3 POWER ON/OFF YEL
TO RR-1 BOARD CN202
CN7 (RED)
CN4 (RED)
CN13 (WHT)
CN6 (WHT)
CN1 (RED)
CN1
1 9V BRN
2 VIDEO OUT (X) WHT
3 VIDEO OUT (Y) –
4 VIDEO IN (X) WHT
5 VIDEO IN (Y) –
TO VI-1 BOARD CN5
CN13
1 INDEX 0 BRN
2 INDEX 1 RED
3 INDEX 2 ORG
4 INDEX 3 YEL
5 REC PAUSE PINK
TO SS-14 BOARD CN620
CN6
1 UNSWD 12V BRN
2 GND (12V) RED
3 SWD 12V ORG
4 GND (12V) YEL
TO SS-14 BOARD CN608
【CH SELECT BOARD】 —CH-30—
D001
D002
D003
1-610-058-
(TM2) CN2
1 P13D BRN
2 P12D RED
3 P11D ORG
4 P10D YEL
5 P21D PINK
6 P20D BLU
7 P33D VIO
8 P32D GRY
9 P31D WHT
CN2
1 GND BRN
2 ERASE RED
3 ADD ORG
4 NORM/CATV YEL
5 PAY PRESET PINK
【SWICTH BOARD】 —CH-29—
AUX PRESET
ERASE
ADD
S004
S001
S002
S003
CN001
CATV
NORM
1-610-053
RF MODULATOR
RF UNIT 3CH↔4CH
MPX
ANTENNA SWITCH
ANT 1
ANT 2
VHF OUT TO TV
PAY SWITCH
PAY 1
PAY 2
ANT /CABLE
TO CONV
VHF
AUX
IF OUT
VHF IN
UHF IN
VHF
UHF
TUNER
IC006
IC005
IC003
IC002
IC004
no mark : ▭ REC mode
1-610-052
CN3
1 REQ
2 PAY CONT
3 S0
4 S1
5 SCLK
6 BATT
CN4
1 +5V
2 P10 IN
3 P11 IN
4 P12 IN
5 P13 IN
6 P60 OUT
7 SCO
8 REC PAUSE
SPLITER -UHF-
IN
OUT
【TUNER BOARD】
11

Q · IC	021 008 028 020 IC007 006 007 027 IC005 IC003 011 001 002 IC002 IC001 022 025 IC006 023 024 026 010 009 IC008 019 IC004 018 005 017 016 004 003 014 015 012 013
D	010 026 009 006 005 008 007 001 015 016 017 018 023 014 024 027 022 021 020 019 003 004 002 012 013 011 025
ADJ TP	TP2 TP1 TP4 TP0 RV003 RV004 TP7 TP3 RV001 RV002 TP5 TP6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A1
B1
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9
10
BOARD
BOARD
HF
IN
OUT
CN5
1 P22 OUT BRN
2 P11 IN RED
3 P10 IN ORG
4 P31 OUT YEL
5 P12D IN PINK
(TM1) CN1
1 P13 BRN
2 P12 RED
3 P11 ORG
4 P10 YEL
5 P22 PINK
6 P31 BLU
7 P30 WHT
[SWICTH BOARD] —SW-22—
BRIGHT
DIM
S8
D5
D3
D6
D4
D11
D10
S3
CLOCK SET
CN8
CN6
TIMER REC
SELECT
TIMER SET
S4
S1
NEXT
S5
S6
S2
ON
OFF
CLEAR
CHECK
1-610-056
A5
FL-1 (FLUORESCENT DISPLAY TUBE)
CATV
COUNTER ERROR
SUN MON TUE WED THU FRI SAT
2ND WEEK TURN ON OFF
INDEX
AM
PM
CH
A B C D
40 S6 S5 S4 S3 S2 S1 S0 S12 S13 S14 S15 1
[FLUORESCENT DISPLAY BOARD] — TIMER-1 —
1-548-573
D14
Q7
CP4
CP3
CP2
R17
R16
R18
D13
D15
R101
R102
Q101
D101
CN3
1 REQ BRN
2 PAY CONT RED
3 $\overline{SO}$ ORG
4 SI YEL
5 $\overline{SCLK}$ PINK
6 BATT BLU
CN4
1 +5V BRN
2 P10 IN RED
3 P11 IN ORG
4 P12 IN YEL
5 P13 IN PINK
6 P60 OUT BLU
7 $\overline{SCO}$ WHT
8 REC $\overline{PAUSE}$ BLK
[TIMER DISPLAY BOARD] — TIMER-2 —
IC1
Q5
Q9
Q8
Q3
Q2
D12
D16
D17
D18
D19
D22
D23
D9
D10
TP6
R1
R7
R8
R9
L1
C7
C9
C11
C16
TM2 (CN2)
TM1 (CN1)
CN1
CN2
CN3
1-548-573
[TUNER BOARD] — TU-34 —
1-610-054
E 12V U L H S VC AGC
(TM2) CN2(WHT) 1 2 3 4 5 6 7 8 9
(TM1) CN1(WHT) 1 2 3 4 5 6 7
E-E mode
CN2
1 $\overline{REC READY}$ BRN
2 $\overline{TIMER REC}$ RED
3 $\overline{CNT PLS}$ ORG
4 CNT (+/−) YEL
5 $\overline{CNT RESET}$ PINK
6 POWER CONT BLU
7 UNSWD 12V VIO
8 GND WHT
TO SS-14 BOARD CN627
IC1
-0.7 -19.5 -22.5 -0.03 -26.1
-10.2 -29.1 -25.9
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51
29.2
0.03 5.5 5.5 0 4.9 5.6 5.4 5.6 5.6
19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1
0.03 5.2 5.3 0 4.9 4.9 0 5.5

Note:

- Resistors on the TIMER board is in ohms, 1/6W unless otherwise noted.
- Resistors on the other boards are in ohms, 1/8W unless otherwise noted.
  kΩ : 1000 Ω, MΩ : 1000 kΩ
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ▭ : nonflammable resistor.
- The red lines show the main voltages.
- All voltages are dc measured with a VOM (10MΩ/V).

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

4-10. SR-14A (SWITCHING REGULATOR) BOARD SCHEMATIC DIAGRAM

– Ref. No. SR-14A BOARD : 14000 series –

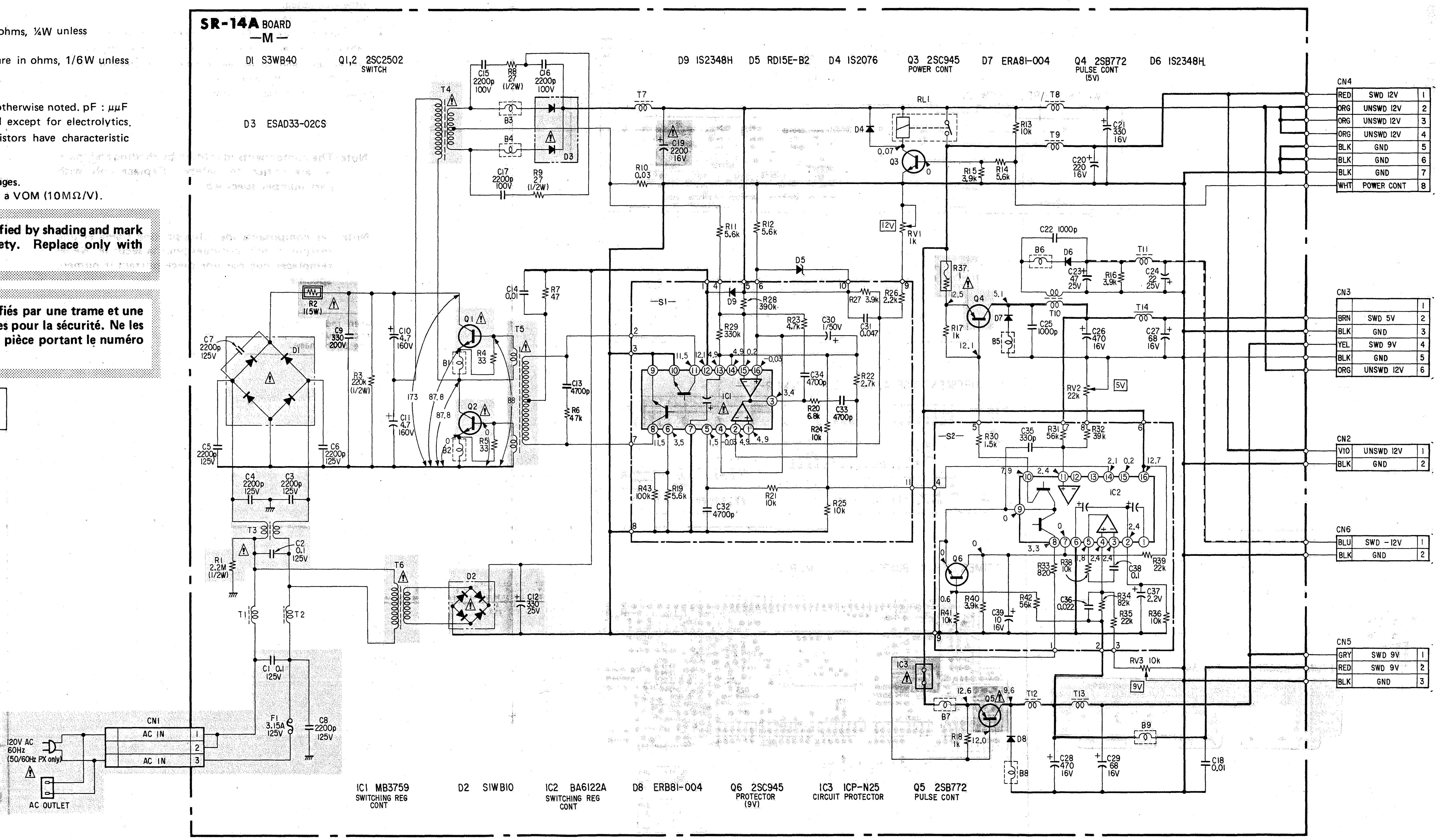
Note:

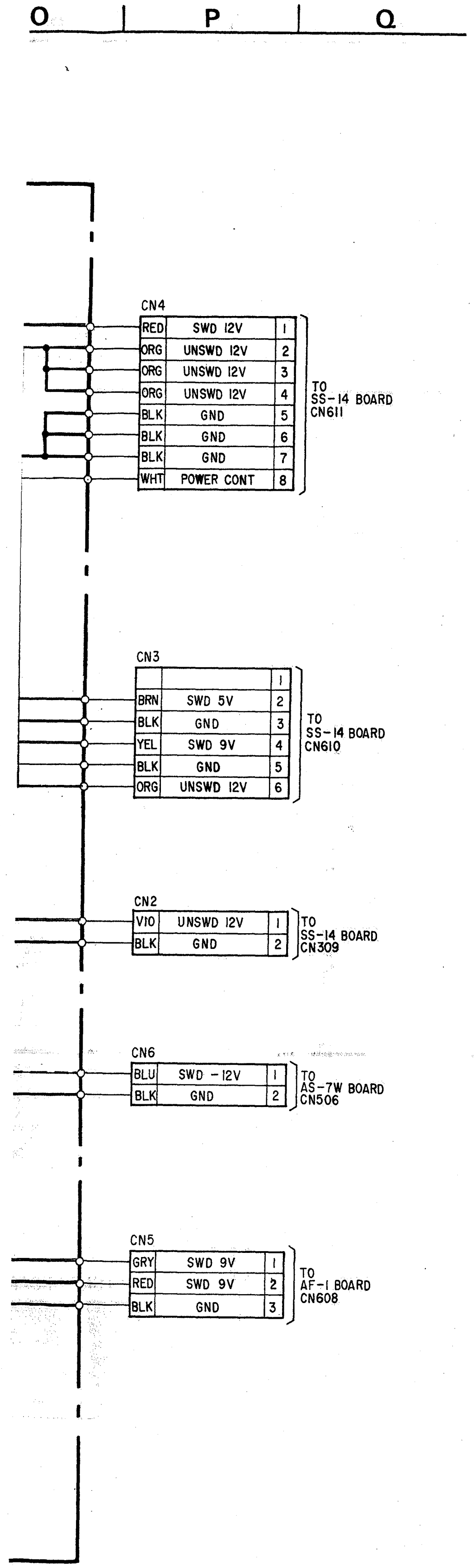
- Resistors on the M board is in ohms, ¼W unless otherwise noted.
- Resistors on the other boards are in ohms, 1/6W unless otherwise noted.
  kΩ : 1000Ω, MΩ : 1000kΩ
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ▭ : nonflammable resistor.
- The red lines show the main voltages.
- All voltages are dc measured with a VOM (10MΩ/V).

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

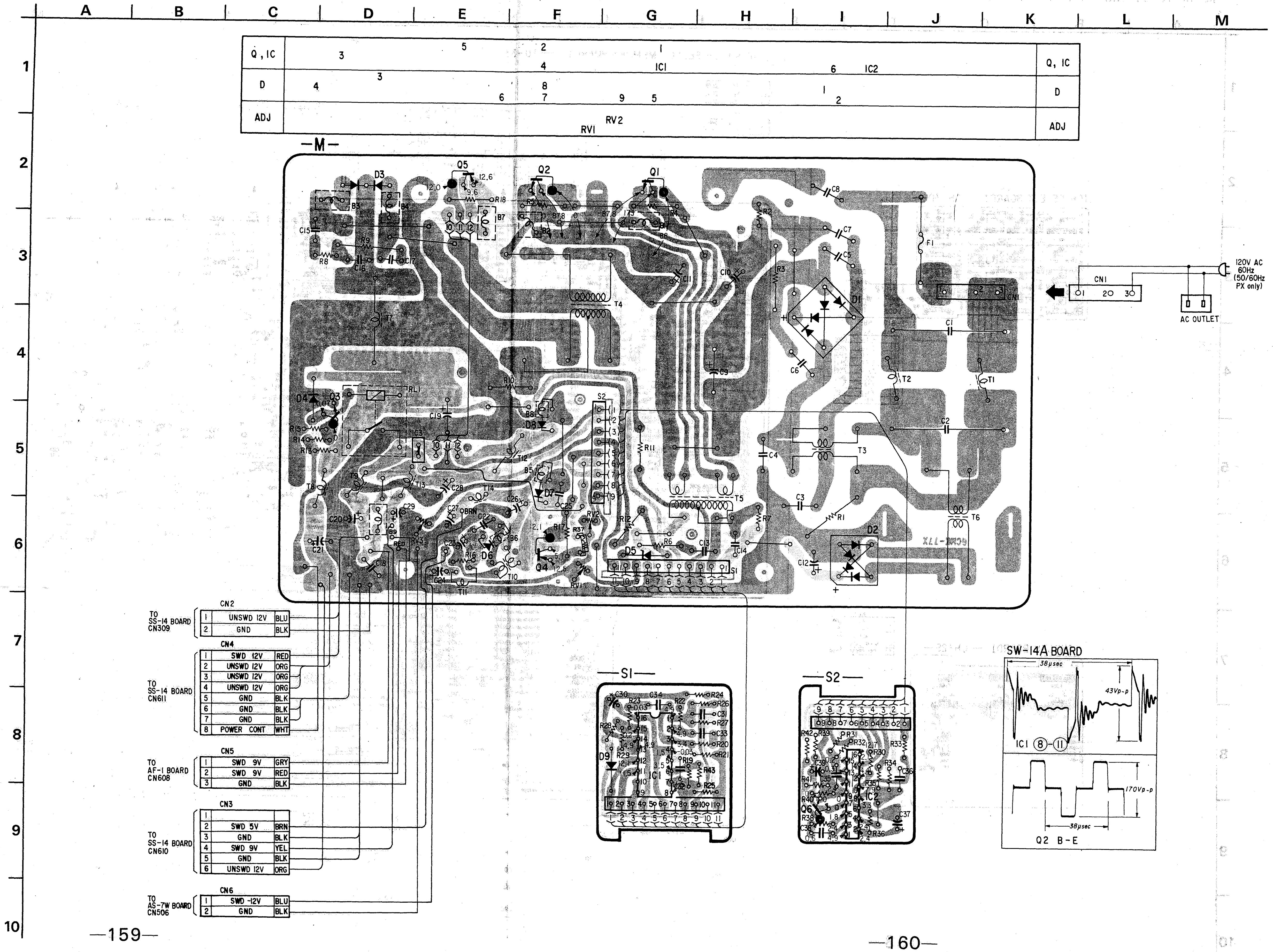
When indicating parts by reference number, please include the board name.


SR-14A BOARD
—M—
D1 S3WB40
Q1,2 2SC2502 SWITCH
D3 ESAD33-02CS
D9 1S2348H
D5 RD15E-B2
D4 1S2076
Q3 2SC945 POWER CONT
D7 ERA81-004
Q4 2SB772 PULSE CONT (5V)
D6 1S2348H
IC1 MB3759 SWITCHING REG CONT
D2 S1WB10
IC2 BA6122A SWITCHING REG CONT
D8 ERB81-004
Q6 2SC945 PROTECTOR (9V)
IC3 ICP-N25 CIRCUIT PROTECTOR
Q5 2SB772 PULSE CONT
T1
T2
T3
T4
T5
T6
T7
T8
T9
T10
T11
T12
T13
T14
RL1
—S1—
—S2—
CN1
AC IN 1
2
AC IN 3
120V AC 60Hz (50/60Hz PX only)
AC OUTLET
F1 3.15A 125V
C1 0.1 125V
C2 0.1 125V
C8 2200p 125V
R1 2.2M (1/2W)
R2 1(5W)
C9 330 200V
R3 220k (1/2W)
C10 4.7 160V
C11 4.7 160V
C12 330 25V
C13 4700p
C14 0.01
C15 2200p 100V
C16 2200p 100V
C17 2200p 100V
C19 2200 16V
R8 27 (1/2W)
R9 27 (1/2W)
R10 0.03
RV1 1k
RV2 22k
RV3 10k
12V
5V
9V
CN4
RED SWD 12V 1
ORG UNSWD 12V 2
ORG UNSWD 12V 3
ORG UNSWD 12V 4
BLK GND 5
BLK GND 6
BLK GND 7
WHT POWER CONT 8
CN3
1
BRN SWD 5V 2
BLK GND 3
YEL SWD 9V 4
BLK GND 5
ORG UNSWD 12V 6
CN2
V10 UNSWD 12V 1
BLK GND 2
CN6
BLU SWD −12V 1
BLK GND 2
CN5
GRY SWD 9V 1
RED SWD 9V 2
BLK GND 3


O
P
Q
CN4
RED SWD 12V 1
ORG UNSWD 12V 2
ORG UNSWD 12V 3
ORG UNSWD 12V 4
BLK GND 5
BLK GND 6
BLK GND 7
WHT POWER CONT 8
TO SS-14 BOARD CN611
CN3
1
BRN SWD 5V 2
BLK GND 3
YEL SWD 9V 4
BLK GND 5
ORG UNSWD 12V 6
TO SS-14 BOARD CN610
CN2
VIO UNSWD 12V 1
BLK GND 2
TO SS-14 BOARD CN309
CN6
BLU SWD -12V 1
BLK GND 2
TO AS-7W BOARD CN506
CN5
GRY SWD 9V 1
RED SWD 9V 2
BLK GND 3
TO AF-1 BOARD CN608

SR-14A (SWITCHING REGULATOR) PRINTED WIRING BOARDS

– Ref. No. SR-14A BOARD : 14000 series –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Q, IC
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1
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IC1
6
IC2
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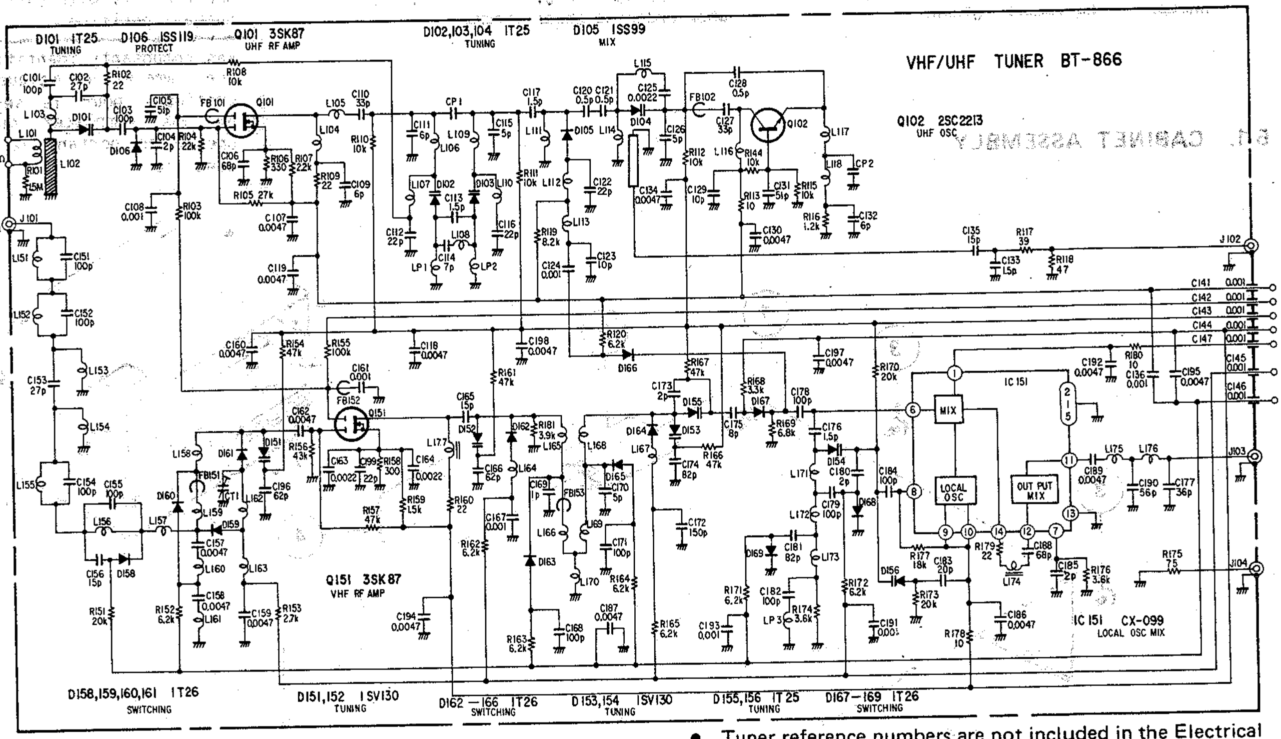
3
8
6
7
9
5
1
2
RV2
RV1
-M-
D3
Q5
12.0
12.6
9.6
Q2
Q1
C8
R18
B3
B4
B7
R2
C7
C5
C15
R9
R8
C16
C17
F1
C10
C11
R3
T4
D1
CN1
C1
C6
T7
C9
R10
RL1
D4
Q3
S2
B8
D8
R15
R14
R13
C19
IC3
R11
T2
T1
C2
C4
T3
T12
T8
T9
T13
C28
T14
B5
D7
C26
C25
T5
C3
R7
R1
T6
C20
C29
C27
C22
RV2
R12
R6
C13
C14
D2
C21
B9
B6
D6
R17
R37
R16
Q4
D5
C12
C18
C24
T11
T10
RV1
S1
CN1
1 2O 3O
120V AC
60Hz
(50/60Hz
PX only)
AC OUTLET
CN2
UNSWD 12V BLU
GND BLK
TO SS-14 BOARD CN309
CN4
SWD 12V RED
UNSWD 12V ORG
UNSWD 12V ORG
UNSWD 12V ORG
GND BLK
GND BLK
GND BLK
POWER CONT WHT
TO SS-14 BOARD CN611
CN5
SWD 9V GRY
SWD 9V RED
GND BLK
TO AF-1 BOARD CN608
CN3
SWD 5V BRN
GND BLK
SWD 9V YEL
GND BLK
UNSWD 12V ORG
TO SS-14 BOARD CN610
CN6
SWD -12V BLU
GND BLK
TO AS-7W BOARD CN506
-S1-
C30
C34
R24
R23
R22
R26
C31
R27
C33
R20
R21
R28
D9
R29
IC1
R19
R43
R25
-S2-
R42
R39
R31
PR32
R30
R33
R34
C36
R41
C35
IC2
R35
R40
Q6
R38
C38
R36
C37
SW-14A BOARD
38μsec
43Vp-p
IC1 ⑧-⑪
170Vp-p
38μsec
Q2 B-E

4-11. UHF/VHF TUNER SCHEMATIC DIAGRAM

– BT-866 –



VHF/UHF TUNER BT-866
D101 1T25 TUNING
D106 1SS119 PROTECT
Q101 3SK87 UHF RF AMP
D102,103,104 1T25 TUNING
D105 1SS99 MIX
Q102 2SC2213 UHF OSC
UHF ANT/300Ω
VHF ANT/75Ω
J101
J102
J103
J104
ULO
UB
AGC
VC
L
+B
H
H
IF OUT
VLD
MIX
LOCAL OSC
OUT PUT MIX
IC 151
IC 151 CX-099 LOCAL OSC MIX
Q151 3SK87 VHF RF AMP
D158,159,160,161 1T26 SWITCHING
D151,152 1SV130 TUNING
D162 – 166 1T26 SWITCHING
D153,154 1SV130 TUNING
D155,156 1T25 TUNING
D167 – 169 1T26 SWITCHING

- Tuner reference numbers are not included in the Electrical Parts List.

SECTION 5
EXPLODED VIEWS

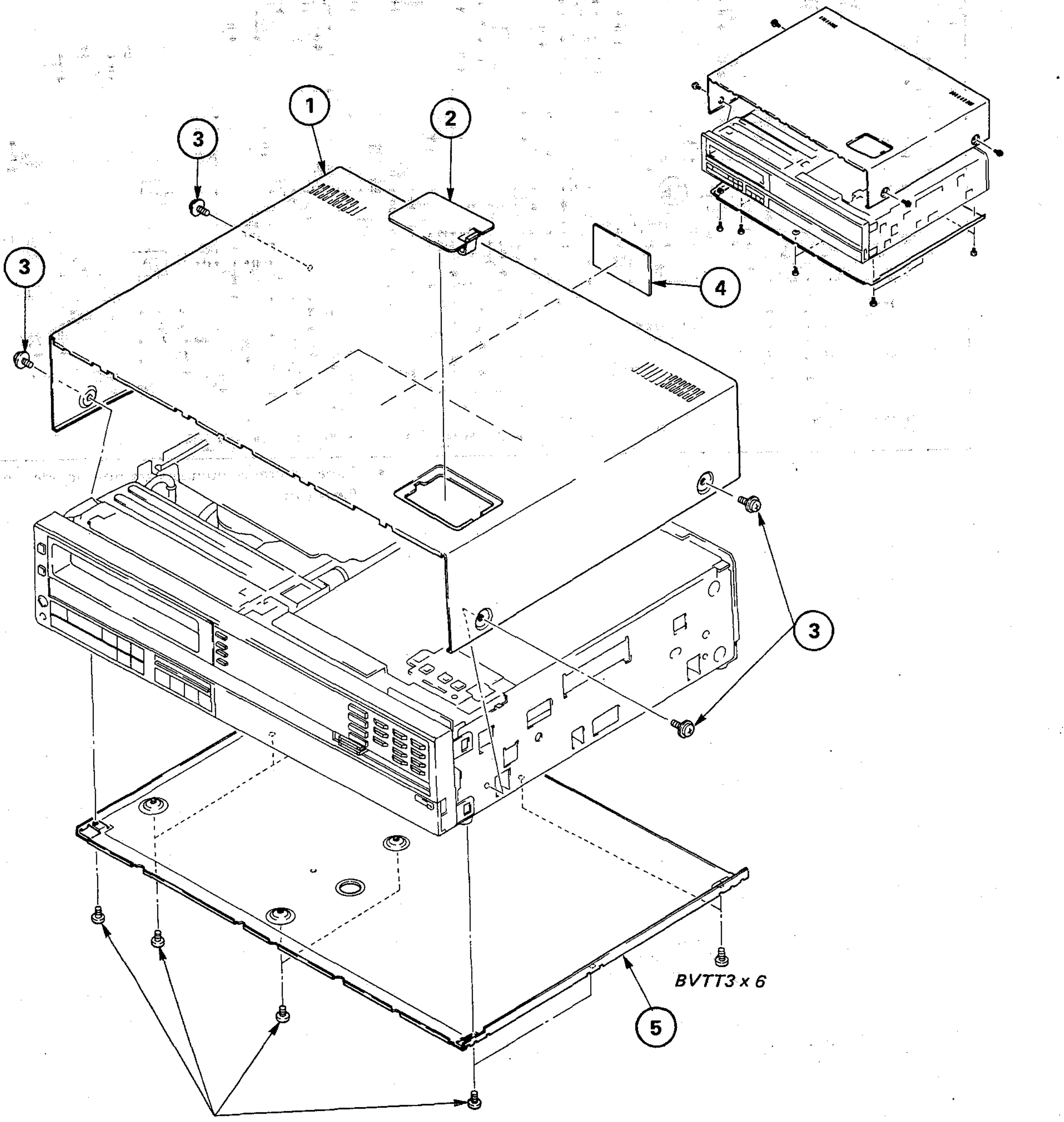
NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

- Items marked " ♠ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

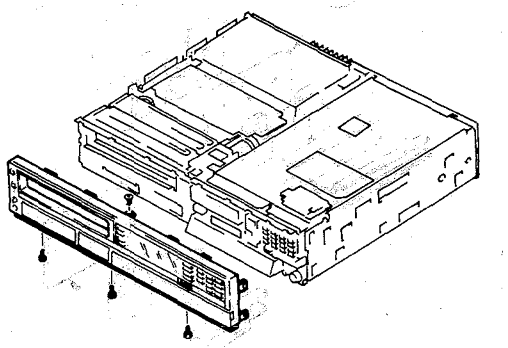
Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

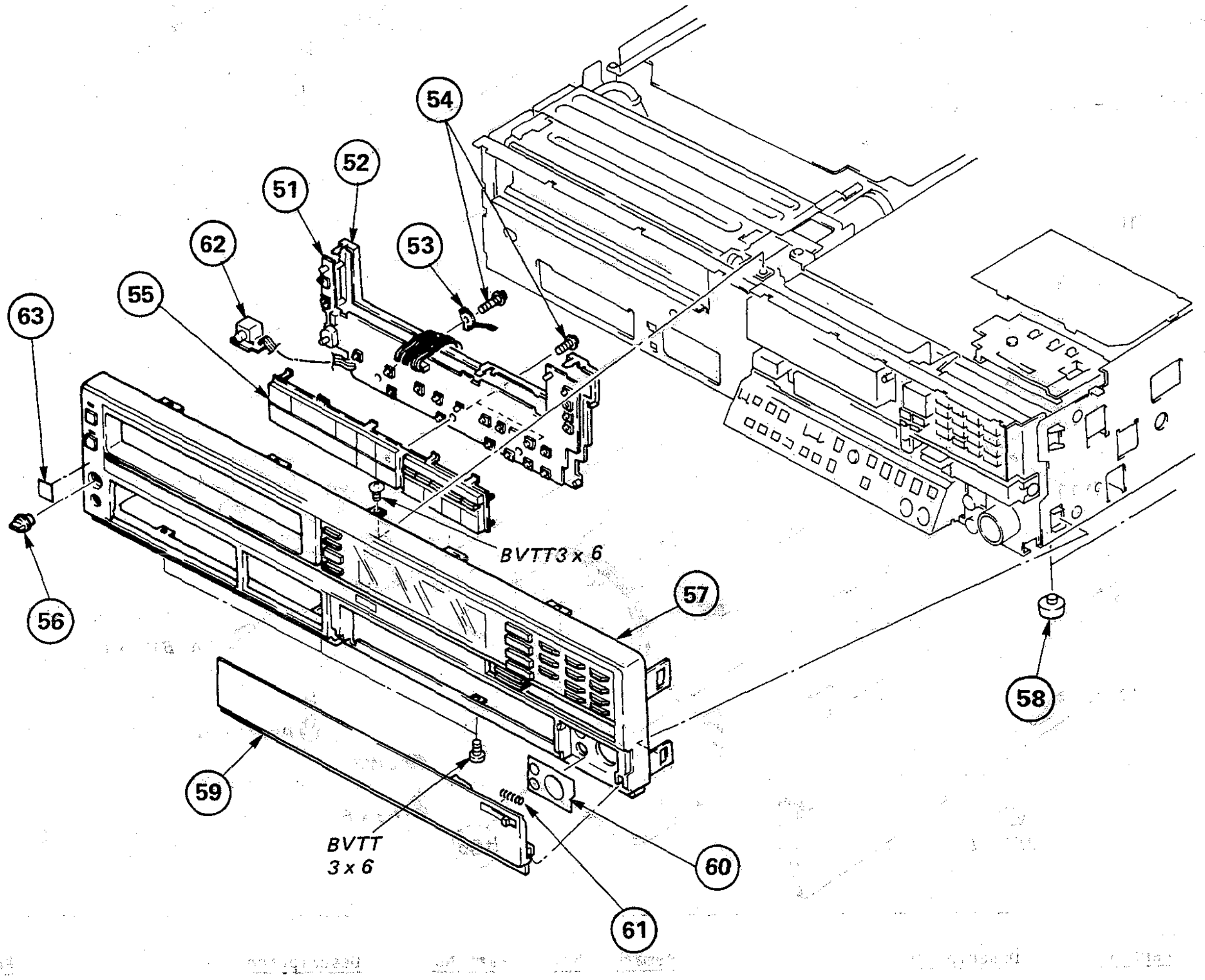
5-1. CABINET ASSEMBLY



No.	Part No.	Description	Remark
1	X-3679-801-0	CASE ASSY	
	X-3679-832-0	CASE ASSY (SL-2700B)	
2	4-342-123-51	DOOR, PRESET	
	4-342-123-61	DOOR, PRESET (SL-2700B)	
3	3-703-354-11	SCREW (OS), CASE, CLAW	
	3-703-354-01	SCREW (OS), CASE, CLAW (SL-2700B)	
4	♠:3-679-952-00	LABEL, MODEL NUMBER (US MODEL)	
	♠:3-679-980-00	LABEL, MODEL NUMBER (SL-2700B US MODEL)	
	♠:3-679-985-00	LABEL, MODEL NUMBER (Canadian,E MODEL)	
	♠:3-679-986-00	LABEL, MODEL NUMBER (SL-2700B Canadian MODEL)	
	♠:3-679-988-00	LABEL, MODEL NUMBER (PX MODEL)	
5	X-3679-802-0	PLATE ASSY, BOTTOM	

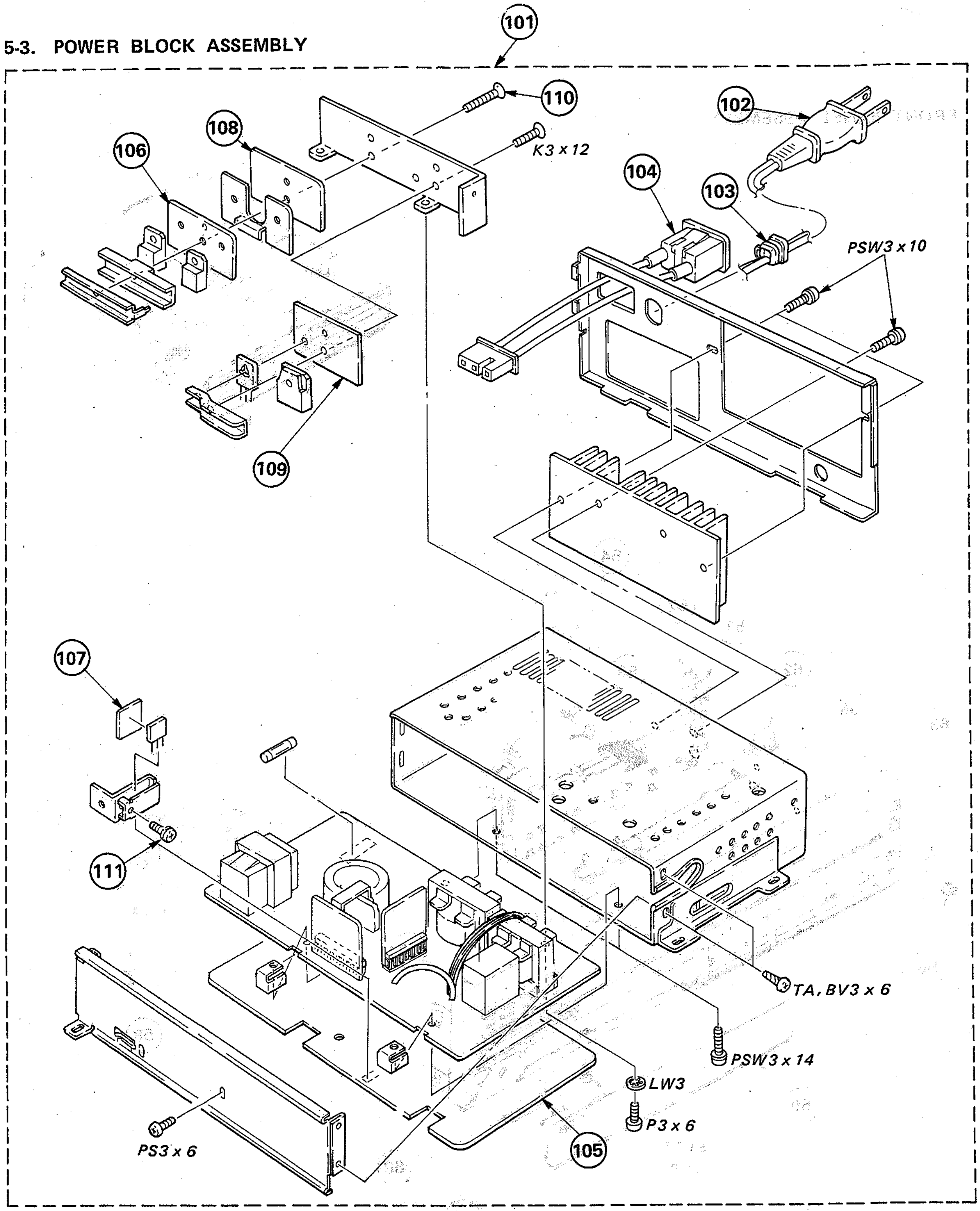
5-2. FRONT PANEL ASSEMBLY





No.	Part No.	Description	Remark
51	♠:A-6717-318-A	FU-11 BOARD, COMPLETE	
52	♠:3-679-878-00	HOLDER, FU PC BOARD	
53	♠:3-679-909-00	PIECE (A), CONTACT	
54	3-669-480-11	+ PTPWH 2	
55	X-3679-803-0	BUTTON ASSY, FU	
	X-3679-833-0	BUTTON ASSY, FU (SL-2700B)	
56	3-679-815-00	KNOB, CONTROL	
	3-679-815-11	KNOB, CONTROL (SL-2700B)	
57	X-3679-807-0	PANEL ASSY, FRONT	
	X-3679-830-0	PANEL ASSY, FRONT (SL-2700B)	
58	3-670-155-00	LEG	
59	X-3679-811-0	DOOR ASSY, FRONT	
	X-3679-831-0	DOOR ASSY, FRONT (SL-2700B)	
60	♠:3-679-907-11	PLATE, ORNAMENTAL, CONNECTOR	
61	3-562-309-00	SPRING, COMPRESSION	
62	♠:1-610-057-00	HP-2 BOARD	
63	3-703-713-01	STICKER, SONY SYMBOL (10)	

5-3. POWER BLOCK ASSEMBLY

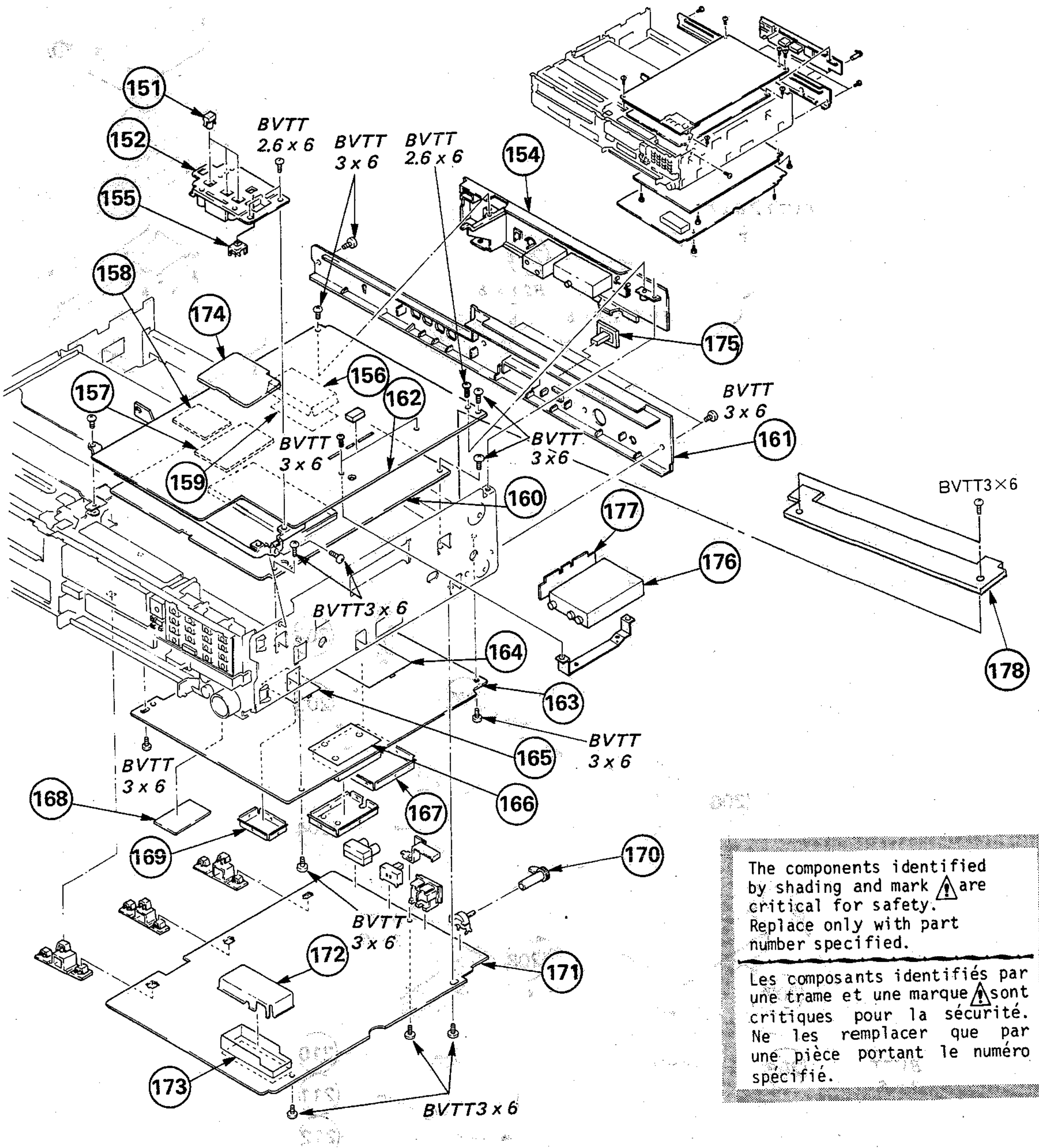

101
110
K3 x 12
102
108
106
104
103
PSW3 x 10
109
107
111
TA, BV3 x 6
PSW3 x 14
LW3
P3 x 6
PS3 x 6
105

No.	Part No.	Description	Remark
101	⚠.1-413-137-11	POWER BLOCK (SR-14A)	102-111
102	⚠.1-551-964-21	CORD, POWER	
103	⚠.2-231-019-01	GROMMET, STRAIN RELIEF	
104	⚠.1-561-347-11	SOCKET, AC	
105	⚠.9-983-335-01	PLATE, INSULATING	
106	⚠.9-983-041-01	SHEET, INSULATING	
107	⚠.9-983-042-01	SHEET, INSULATING	
108	⚠.9-983-043-01	SHEET, INSULATING	
109	⚠.9-983-044-01	SHEET, INSULATING	
110	9-983-045-01	+SA3X15CZN	
111	9-983-046-01	+3X8	

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

5-4. MAIN BOARD ASSEMBLY 1

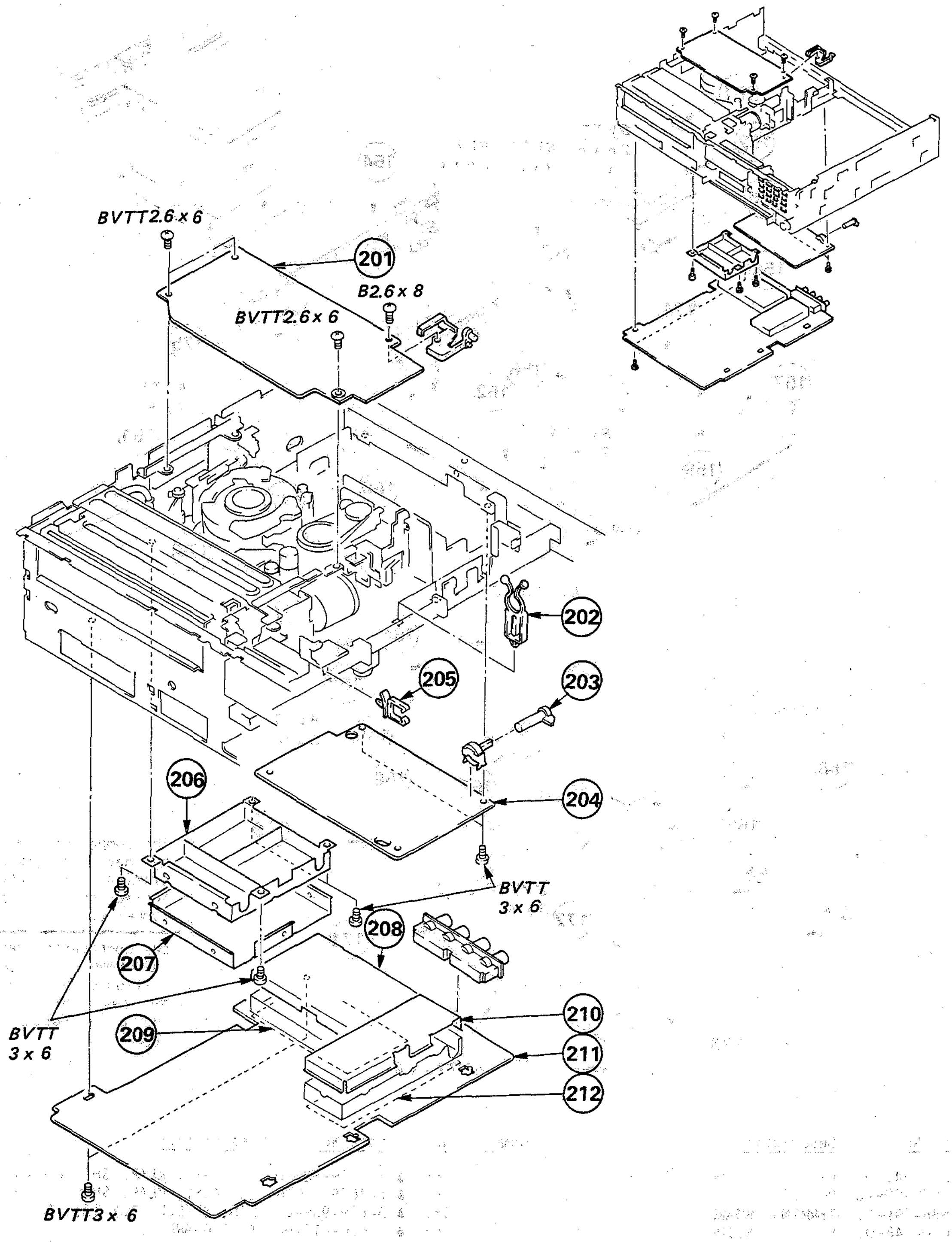

151
152
155
158
174
157
159
156
162
154
175
161
160
177
176
178
164
163
165
166
167
168
169
170
171
172
173
BVTT 2.6 x 6
BVTT 3 x 6
BVTT 2.6 x 6
BVTT 3 x 6
BVTT 3 x 6
BVTT 3x6
BVTT3×6
BVTT3 x 6
BVTT 3 x 6
BVTT 3 x 6
BVTT 3 x 6
BVTT3 x 6

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

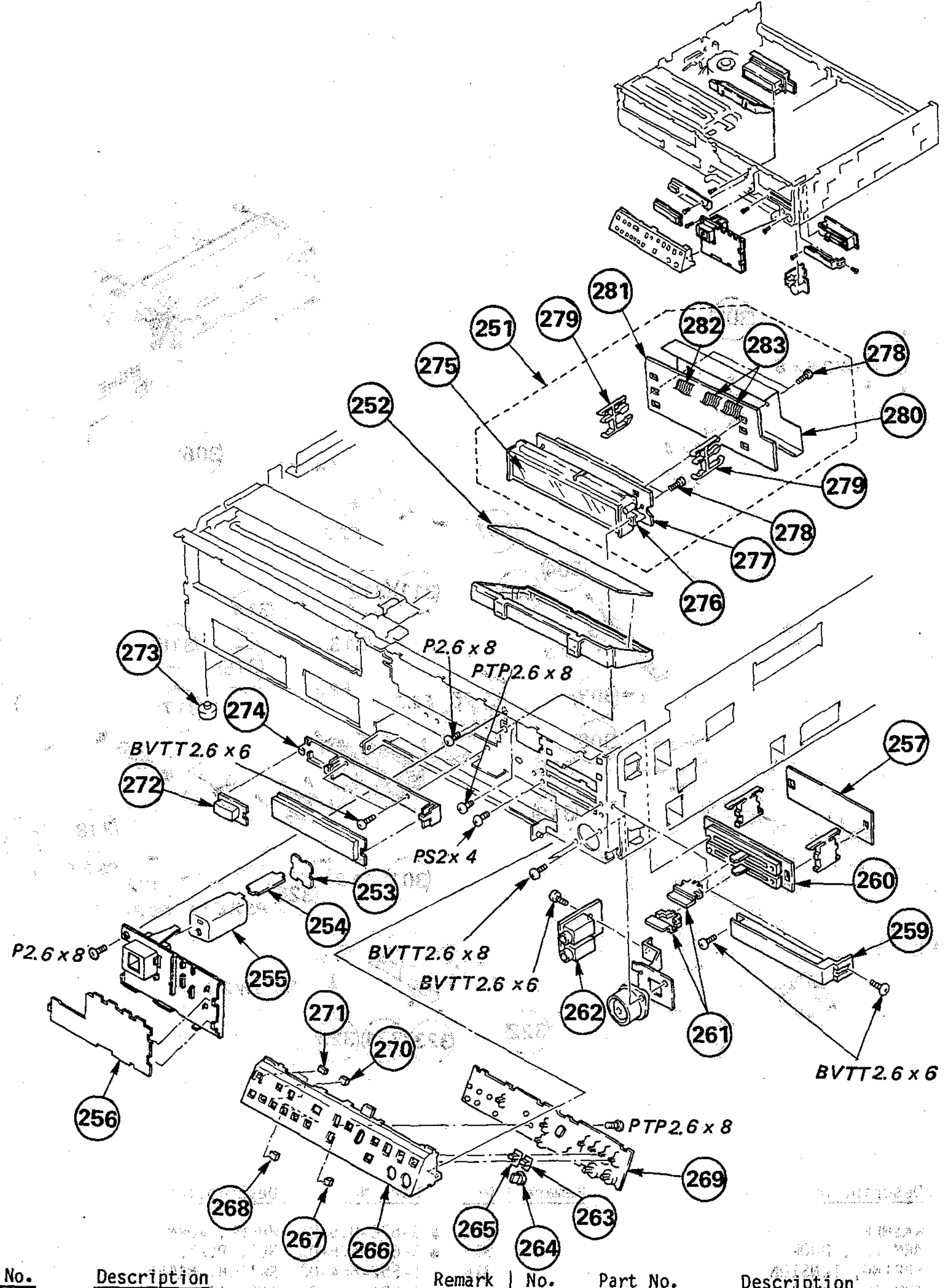
No.	Part No.	Description	Remark
151	2-291-041-00	BUTTON (A), PRESET	
152	♠:X-3679-804-0	PRESET ASSY	
154	⚠1-536-791-11	TERMINAL BOARD	
155	3-670-148-00	KEY (P), SLIDE	
156	♠:X-3670-043-0	LID ASSY, SS-14 SHIELD CASE	
157	♠:A-6728-430-A	TF-2 BOARD, COMPLETE	
158	♠:1-608-636-00	MB-6 BOARD	
159	♠:X-3670-042-0	LID ASSY, REAR, SHIELD CASE	
160	♠:A-6715-184-A	SS-14 BOARD, COMPLETE	
161	3-679-879-11	PANEL (LOWER), REAR	
162	♠:A-6721-164-A	TU-33 BOARD, COMPLETE	
163	♠:A-6713-151-A	AF-1 BOARD, COMPLETE	
164	♠:X-3679-821-0	LID ASSY, REAR, SHIELD CASE(A)	
165	♠:X-3679-820-0	LID ASSY, REAR, SHIELD CASE(B)	
166	♠:X-3679-819-0	LID ASSY, REAR, SHIELD CASE(C)	
167	♠:3-679-939-00	LID, SHIELD CASE (A), AF	
168	♠:1-610-217-00	AX-1 BOARD	
169	♠:3-679-932-00	LID, SHIELD CASE (B), AF	
170	3-670-149-00	KNOB, V SYNCHRONOUS	
171	♠:A-6711-391-A	VI-1 BOARD, COMPLETE	
172	♠:3-679-923-00	LID, SHIELD CASE, VI	
173	♠:X-3679-817-0	LID ASSY, REAR, SHIELD CASE, VI	
174	♠:1-610-053-00	CH-29 BOARD	
175	3-679-968-00	COVER, PCM SELECTION	
176	⚠1-463-399-11	TUNER (BT-866)	
177	♠:1-610-054-00	TU-34 BOARD	
178	♠:1-6713-180-A	IS-1 BOARD, COMPLETE	

5-5. MAIN BOARD ASSEMBLY 2


BVTT2.6 x 6
201
B2.6 x 8
BVTT2.6 x 6
202
205
203
206
204
BVTT
3 x 6
208
207
210
BVTT
3 x 6
209
211
212
BVTT3 x 6

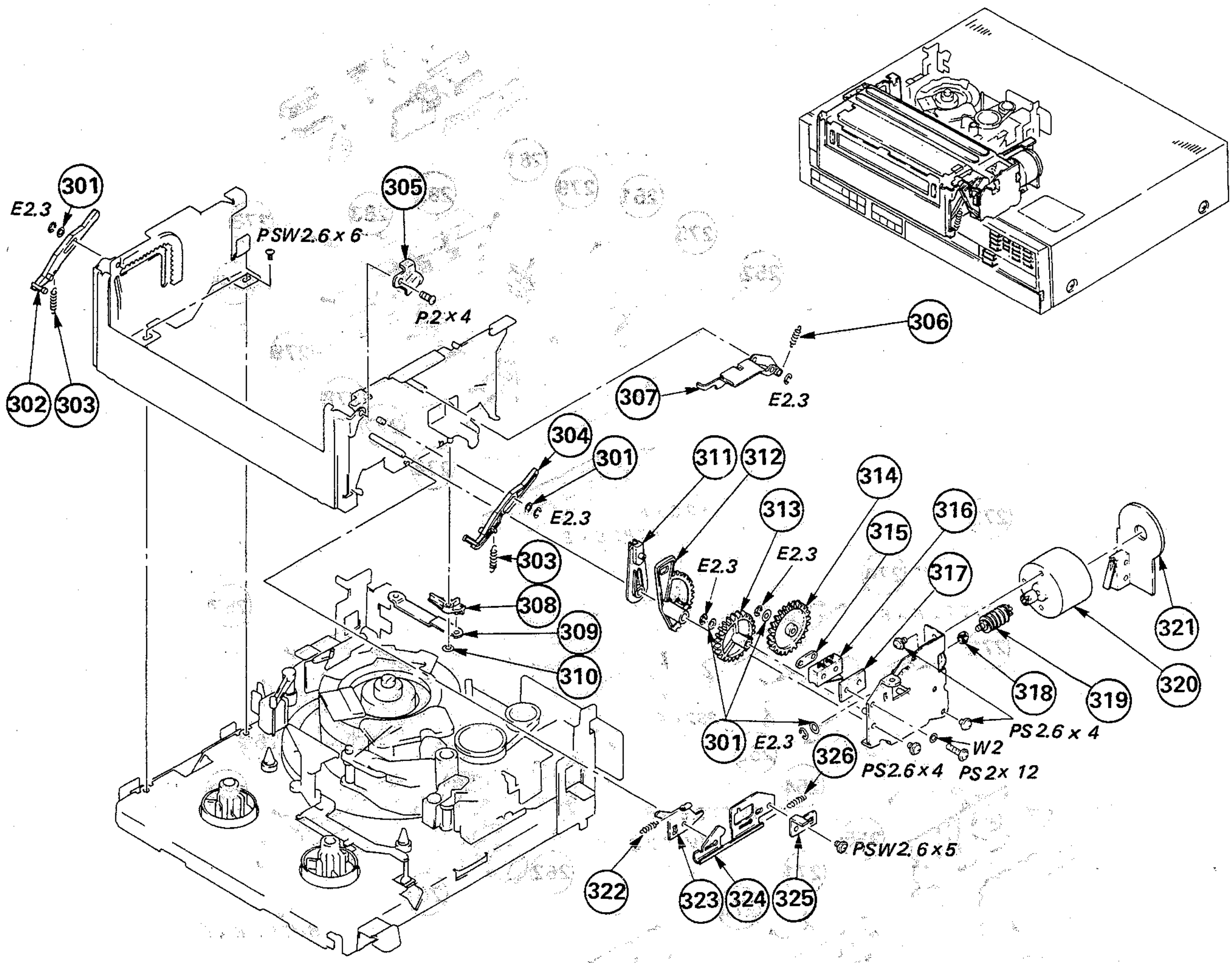
No.	Part No.	Description	Remark
201	♠:A-6717-321-A	RR-1 BOARD, COMPLETE	
202	♠:3-671-187-00	CLIP, ANCHOR	
203	3-670-149-00	KNOB, V SYNCHRONOUS	
204	♠:A-6711-435-A	VL-5 BOARD, COMPLETE	
205	♠:3-655-214-00	CLIP, CABLE	
206	♠:A-6711-388-A	RP-10 BOARD, COMPLETE	
207	♠:X-3679-816-0	LID ASSY, REAR, SHIELD CASE	
208	♠:3-679-927-00	LID, SHIELD CASE (A), AS-7	
209	♠:X-3679-818-0	LID ASSY, REAR, SHIELD CASE(A)	
210	♠:3-679-942-00	LID, SHIELD CASE (B), AS-7	
211	♠:A-6713-163-A	AS-7W BOARD, COMPLETE	
212	♠:X-3679-815-0	LID ASSY, REAR, SHIELD CASE(B)	

5-6. TUNER/TIMER ASSEMBLY


281
251
279
282
283
278
275
280
252
279
278
277
276
273
P2.6 x 8
PTP2.6 x 8
274
BVTT2.6 x 6
257
272
260
PS2x 4
253
254
259
P2.6 x 8
255
BVTT2.6 x 8
BVTT2.6 x 6
262
261
271
270
BVTT2.6 x 6
256
PTP2.6 x 8
269
268
263
267
266
265
264

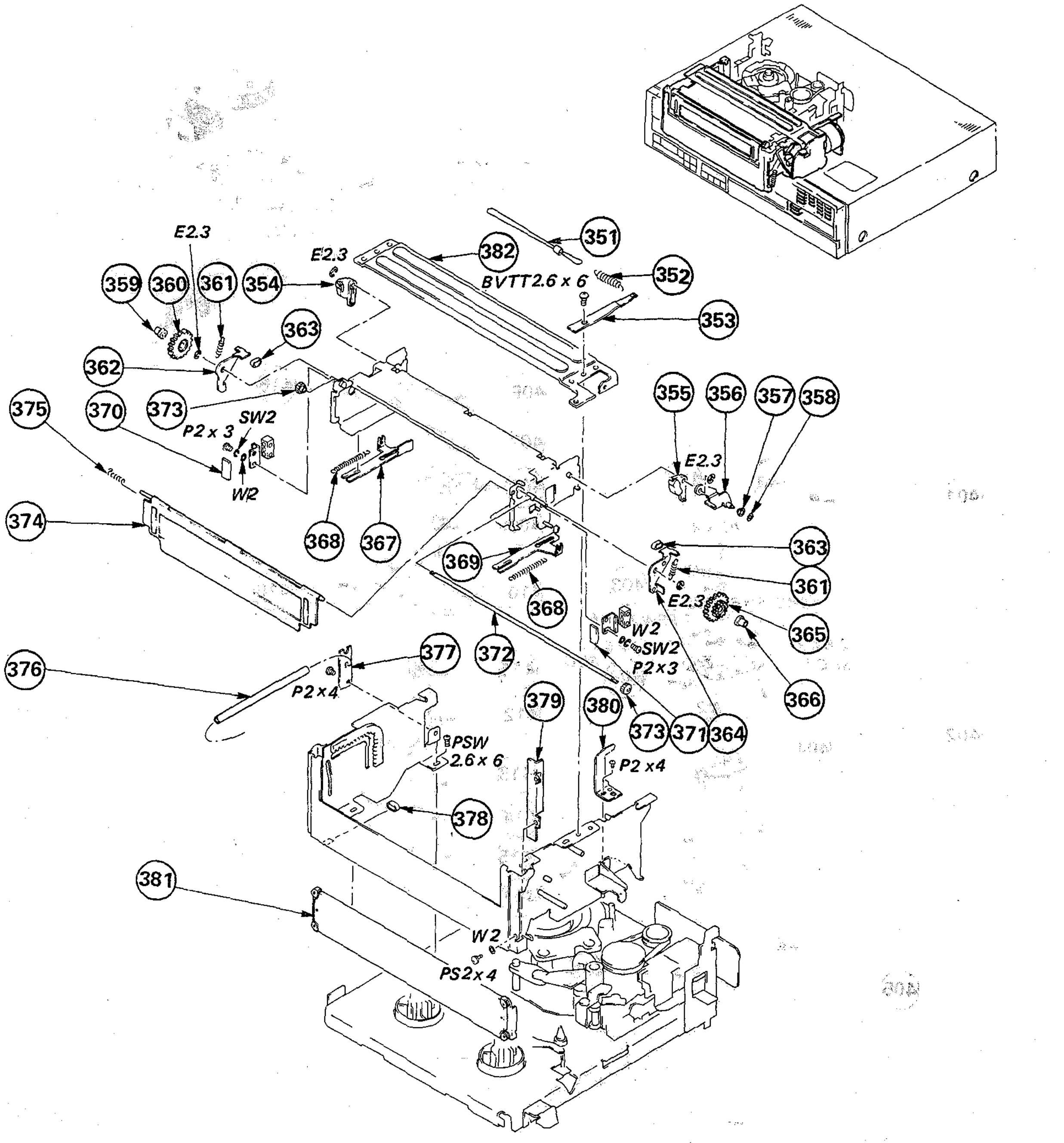
No.	Part No.	Description	Remark
251	1-548-573-00	TIMER BLOCK	275-283
252	♠:A-6724-299-A	DD-1 BOARD, COMPLETE	
253	♠:4-342-118-00	LID, SHIELD CASE, R	
254	♠:1-603-976-00	N BOARD	
255	♠:4-342-117-00	CASE, SHIELD (MAIN), R	
256	♠:1-610-058-00	CH-30 BOARD	
257	♠:1-610-041-00	VR-1 BOARD	
259	3-679-806-00	PLATE, ORNAMENTAL, CONTROL	
260	♠:1-610-042-00	VR-2 BOARD	
261	3-679-808-00	KNOB, SLIDE	
	3-679-808-11	KNOB, SLIDE (SL-2700B)	
262	♠:1-610-051-00	MI-2 BOARD	
263	3-679-836-00	KNOB (2P), SWITCH, SLIDE	
264	3-679-830-00	KNOB, TRACK CONTROL	
265	3-679-826-00	KNOB (3P), SWITCH, SLIDE	
266	X-3679-806-3	PANEL ASSY, SUB, FRONT	
	X-3679-829-0	PANEL ASSY, SUB, FRONT (SL-2700B)	
267	3-679-827-21	PUSH BUTTON (A)	
268	3-679-827-11	PUSH BUTTON (A)	
269	♠:1-610-056-00	SW-22 BOARD	
270	3-679-831-00	PUSH BUTTON (C)	
271	3-679-827-31	PUSH BUTTON (A)	
272	♠:1-610-045-00	HF-1 BOARD	
273	3-670-155-00	LEG	
274	♠:3-679-852-00	BRACKET, LED	
275	9-993-494-00	FLUORESLENT INDICATOR TUBE	
276	♠:9-983-495-00	HOLDER, INDICATOR TUBE	
277	♠:9-983-493-00	TIMER 1 BOARD	
278	9-983-065-00	TA, M2X8	
279	♠:9-983-061-00	HOLDER, PC BOARD	
280	♠:9-983-496-00	CASE ASSY SHIELD	
281	♠:9-983-491-00	TIMER 2 BOARD	
282	♠:9-983-497-00	CABLE, FLAT 9P	
283	♠:9-983-498-00	CABLE, LAMINATE 9P	

5-7. CASSETTE LOADING ASSEMBLY 1


301
E2.3
305
PSW2.6×6
P2×4
306
302
303
307
E2.3
304
301
E2.3
311
312
314
313
316
315
E2.3
E2.3
303
317
308
321
309
318
319
320
310
301
E2.3
326
PS2.6×4
W2
PS2.6×4
PS2×12
PSW2.6×5
322
323
324
325

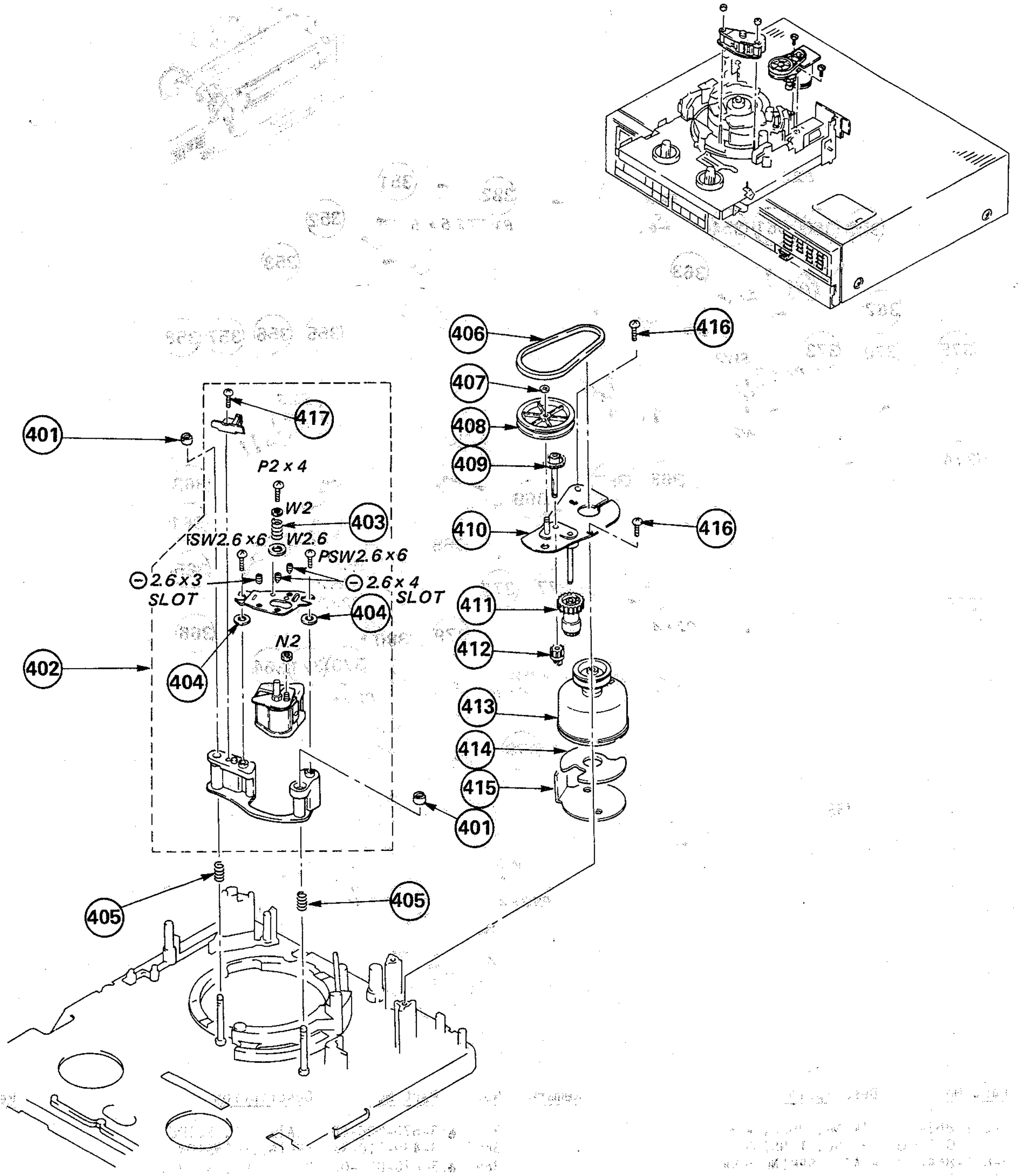
No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
301	3-701-439-21	WASHER		314	♠:3-670-015-00	WHEEL, WORM	
302	3-670-056-00	ARM (L), DOOR		315	♠:3-646-476-00	NUT, PLATE	
303	3-500-130-00	SPRING, TENSION		316	1-552-664-00	SWITCH, MICRO	
304	3-670-057-00	ARM (R), DOOR		317	3-534-263-00	INSULATOR	
305	♠:3-671-819-00	COVER, SECTOR GEAR		318	♠:3-670-168-00	BEARING, WORM	
306	3-536-767-XX	SPRING, TENSION		319	X-3670-001-0	WORM ASSY	
307	♠:3-670-152-00	ARM, LOCK, UP		320	X-3670-002-0	MOTOR ASSY, FL	
308	3-670-001-00	LEVER, UNLOCK		321	♠:1-605-109-00	LM-9 BOARD	
309	3-670-034-00	JOINT, UNLOCK		322	3-530-248-XX	SPRING, TENSION	
310	3-669-465-00	WASHER (1.5), STOPPER		323	♠:3-670-010-00	STOPPER, LOCK	
311	3-670-136-00	ARM, HOLDER DRIVING		324	♠:3-670-009-00	PLATE, LOCK	
312	3-670-151-00	GEAR, SECTOR		325	♠:3-670-011-00	PLATE, ADJUSTMENT, CD	
313	3-670-016-00	GEAR (A)		326	3-489-093-00	SPRING, TENSION	

5-8. CASSETTE LOADING ASSEMBLY 2


E2.3
359
360
361
354
E2.3
382
BVTT2.6 x 6
351
352
353
363
362
375
370
373
SW2
P2 x 3
W2
355
356
357
358
E2.3
374
368
367
369
363
361
E2.3
368
W2
SW2
P2x3
365
376
377
372
P2x4
366
379
380
373
371
364
PSW 2.6 x 6
P2 x4
378
381
W2
PS2x4

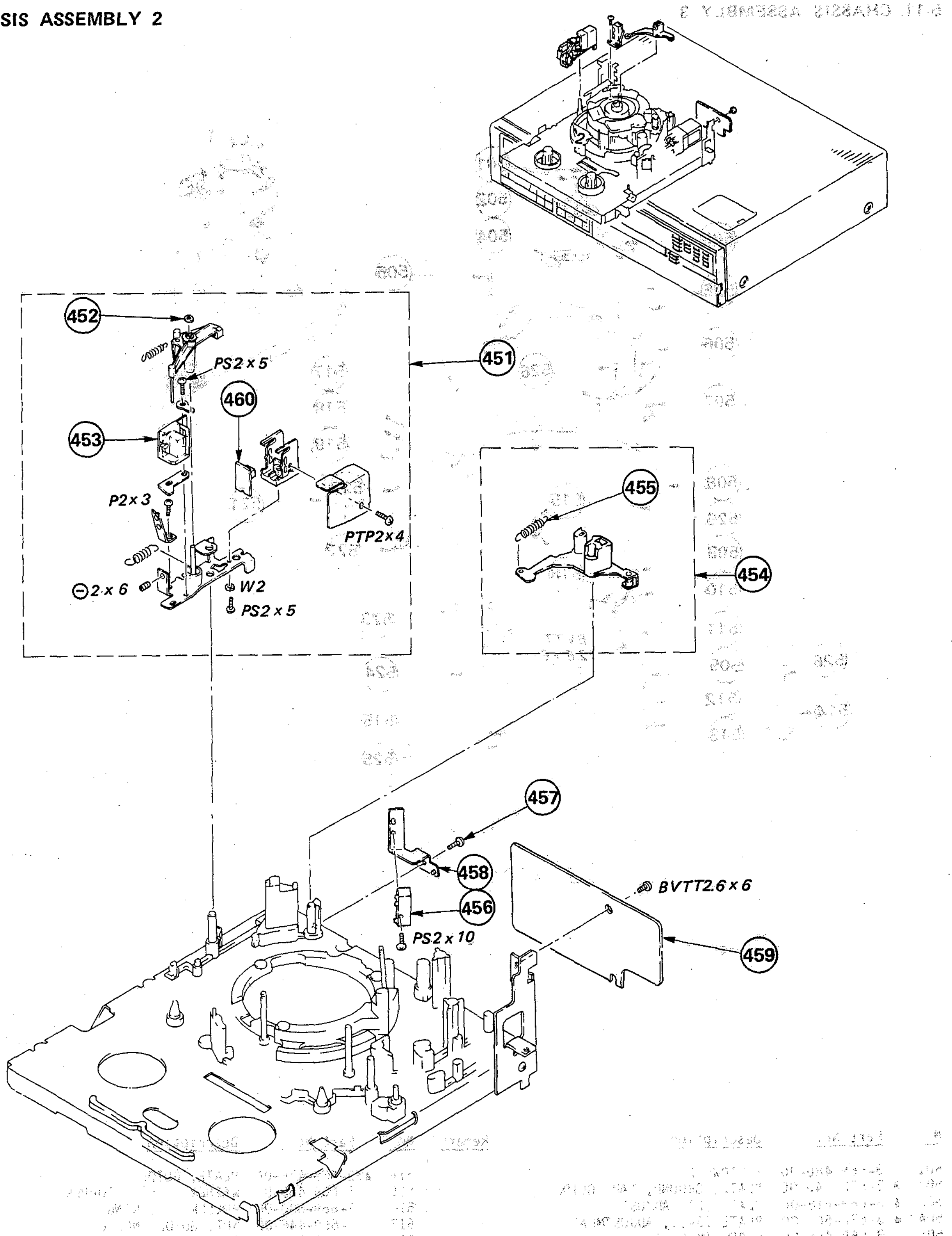
No.	Part No.	Description	Remark
351	3-671-863-00	STRING, PULL, WIRE	
352	3-535-021-00	SPRING, TENSION	
353	3-671-864-00	PLATE, SPRING HOOK	
354	3-670-003-00	CAM (L), C-IN	
355	3-670-004-00	CAM (R), C-IN	
356	♠:X-3670-005-0	ARM ASSY, OPEN LID	
357	3-670-054-00	ROLLER, OPEN LID	
358	3-669-465-00	WASHER (1.5), STOPPER	
359	3-670-018-00	ROLLER, GUIDE	
360	3-670-006-00	GEAR (E)	
361	3-670-169-00	SPRING, TENSION	
362	♠:3-670-031-00	RETAINER (L), CASSETTE	
363	♠:3-646-334-00	CUSHION	
364	♠:3-670-041-00	RETAINER (R), CASSETTE	
365	3-670-005-00	GEAR (B)	
366	3-671-892-00	ROLLER (M), GUIDE	
367	♠:3-670-036-00	PLATE (L), SLIDE, C	
368	3-489-310-XX	SPRING, TENSION	
369	♠:3-670-037-00	PLATE (R), SLIDE, C	
370	♠:1-605-111-00	CI-2 BOARD	
371	♠:1-605-112-00	CI-3 BOARD	
372	♠:3-670-053-00	SHAFT, JOINT	
373	3-670-007-00	GEAR (C)	
374	3-670-150-01	PLATE, BLIND	
375	3-670-058-00	SPRING, LEAF	
376	♠:3-670-170-00	TUBE, RUBBER	
377	♠:1-605-110-00	RL-4 BOARD	
378	3-573-469-00	RETAINER, LEAD, SD	
379	♠:3-670-032-00	RAIL (R)	
380	♠:3-670-012-00	OPEN LID	
381	X-3670-044-0	DOOR ASSY, CASSETTE	
382	♠:3-679-857-00	JOINT	

5-9. CHASSIS ASSEMBLY 1


406
416
407
408
409
410
416
411
412
413
414
415
401
401
417
P2 x 4
W2
403
SW2.6 x6
W2.6
PSW2.6 x6
⊖2.6x3 SLOT
⊖2.6 x 4 SLOT
404
404
402
N2
405
405

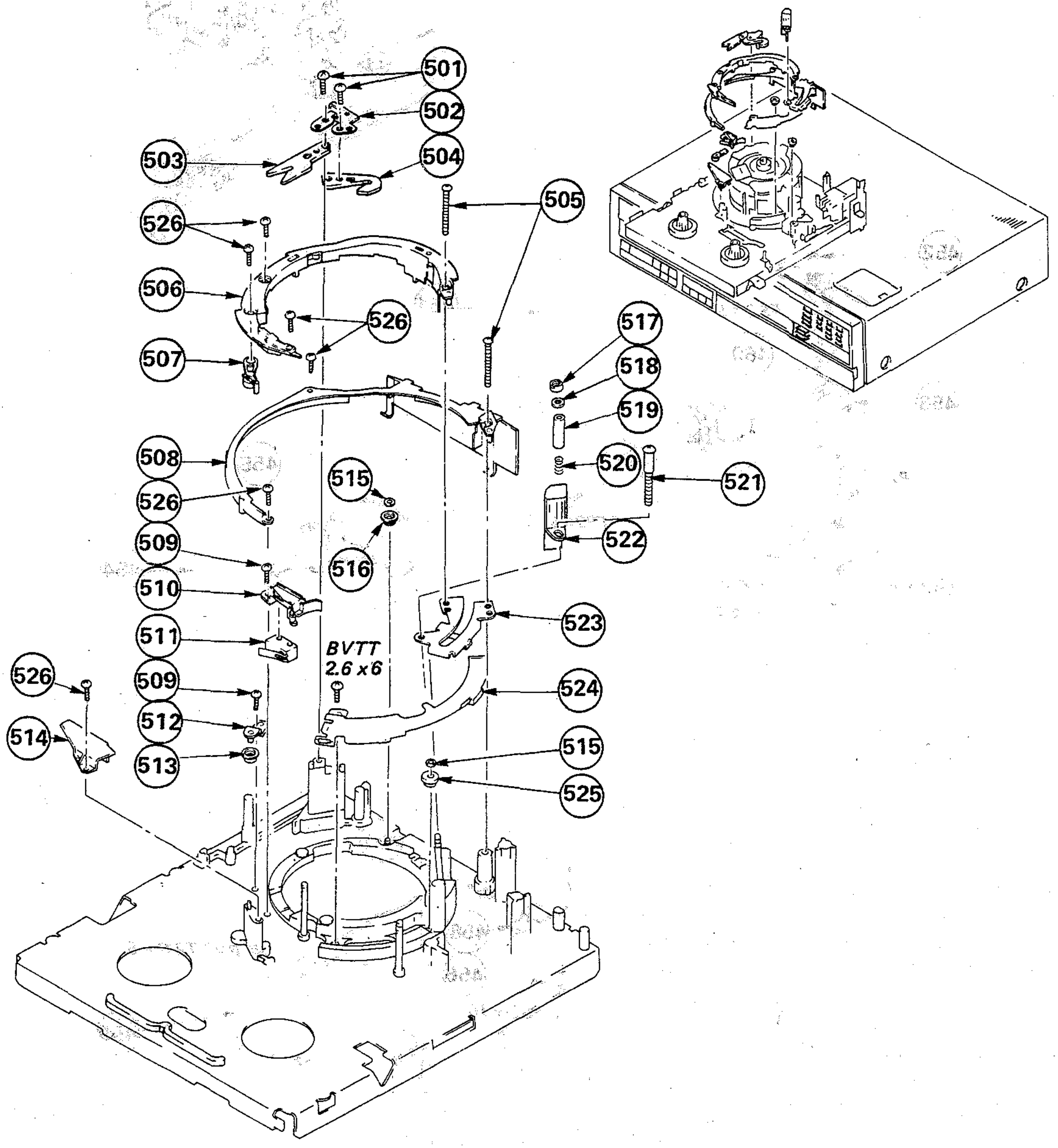
No.	Part No.	Description	Remark
401	3-669-318-00	NUT, ADJUSTMENT, GUIDE	
402	A-6761-059-A	ACE ASSY	403,404,417
403	♠:3-669-316-00	SPRING, COMPRESSION	
404	3-669-598-00	WASHER, CTL	
405	3-669-317-00	SPRING, COMPRESSION	
406	3-669-327-00	BELT, RUBBER	
407	3-669-465-00	WASHER (1.5), STOPPER	
408	X-3670-087-0	PULLEY ASSY, GEAR	
409	3-669-332-00	GEAR (BA)	
410	X-3670-088-0	PC BOARD ASSY (D), MOTOR, L	
411	X-3669-321-0	GEAR (C) ASSY	
412	3-669-333-00	GEAR (BC)	
413	A-6737-090-A	MOTOR ASSY, L	
414	♠:1-605-071-00	LM-8 BOARD	
415	♠:3-669-613-00	INSULATOR, L MOTOR	
416	3-669-480-11	+ PTPWH 2	

5-10. CHASSIS ASSEMBLY 2


452
PS2x5
460
453
P2x3
PTP2x4
⊖2x6
W2
PS2x5
451
455
454
457
458
456
PS2x10
BVTT2.6x6
459

No.	Part No.	Description	Remark
451	A-6742-049-A	TP ASSY	452, 453, 460
452	3-669-465-00	WASHER (1.5), STOPPER	
453	1-235-054-21	COIL, SENSOR, S	
454	X-3669-351-4	ARM ASSY, LOCK	455
455	3-531-860-00	SPRING, TENSION	
456	1-553-539-00	SWITCH, MICRO	
457	3-669-607-11	+PSW (SMALL ROUND) (2.6)	
458	♠:3-672-542-00	BRACKET, SWITCH, LE	
459	♠:1-610-046-00	RL-14 BOARD	
460	1-806-633-21	ELEMENT, MAGNETIC RESISTOR	

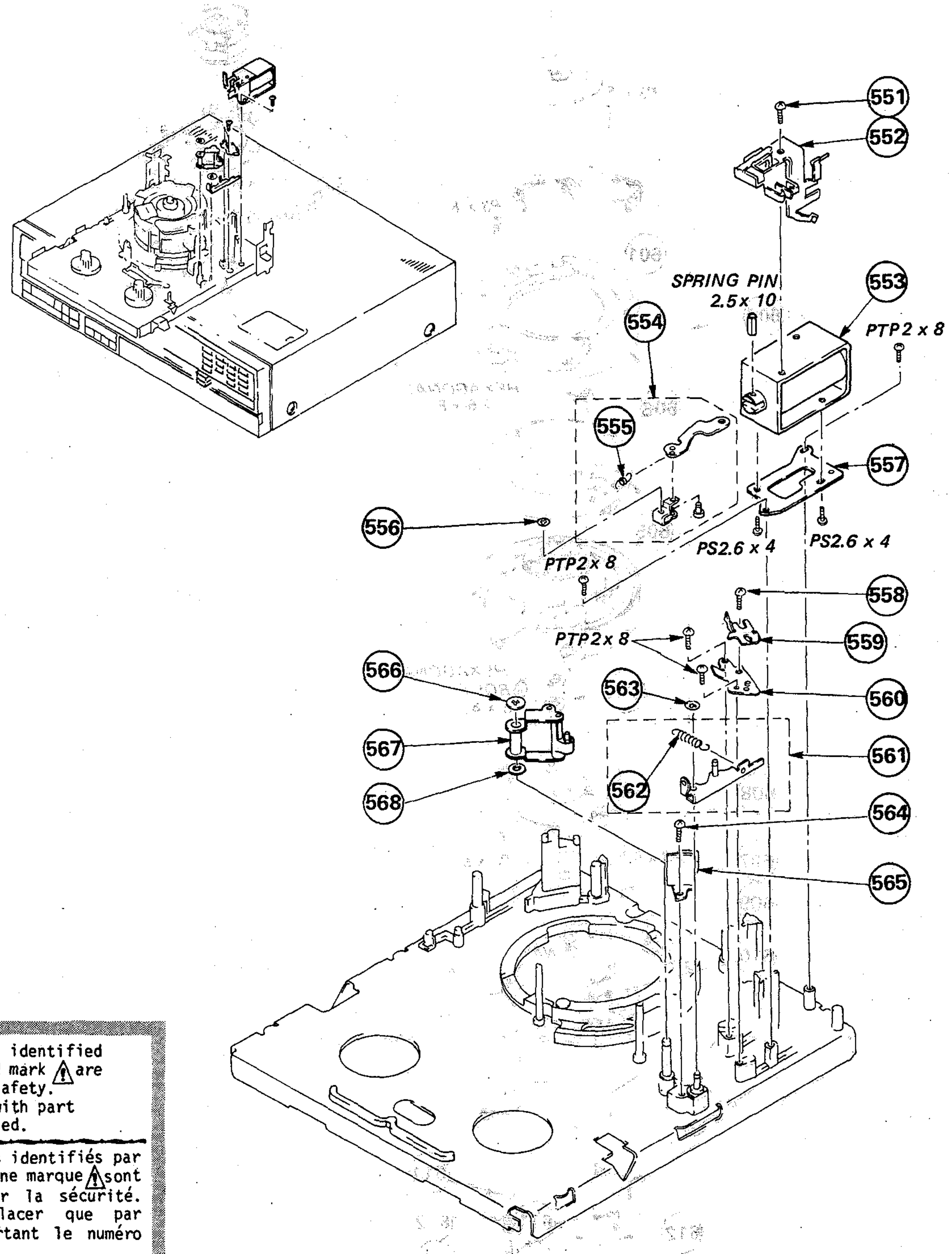
5-11. CHASSIS ASSEMBLY 3


501
502
503
504
505
526
506
526
507
517
518
519
520
521
508
526
515
516
522
509
510
523
511
BVTT
2.6 x 6
526
509
524
512
514
513
515
525

No.	Part No.	Description	Remark
501	3-669-480-00	+ PTPWH 2	
502	🌢:3-672-540-00	PLATE, GROUND, TAPE GUIDE	
503	🌢:3-669-618-00	PLATE (2), ADJUST	
504	🌢:3-672-507-00	PLATE (3-1), ADJUSTMENT	
505	3-669-466-00	SCREW (M 2.6)	
506	🌢:3-669-584-00	GUIDE (1), SHUTTLE	
507	X-3669-327-0	ARM ASSY, SWITCH, ULE	
508	🌢:3-669-585-00	GUIDE (2), SHUTTLE	
509	3-669-607-11	+PSW (SMALL ROUND) (2.6)	
510	🌢:3-669-355-00	HOLDER, SWITCH, ULE	
511	1-553-718-00	SWITCH, MICRO	
512	🌢:X-3669-329-0	PLATE ASSY, ADJUSTMENT	
513	3-669-360-00	ROLLER, RING	

No.	Part No.	Description	Remark
514	🌢:3-669-476-04	PLATE, GUIDE	
515	3-669-465-00	WASHER (1.5), STOPPER	
516	3-669-630-00	ROLLER (C), RING	
517	3-669-446-00	NUT, GUIDE, NO. 6	
518	3-669-447-00	FLANGE, GUIDE, NO. 6	
519	3-669-445-00	SPACER, GUIDE, NO. 6	
520	3-669-615-00	SPRING, COMPRESSION	
521	3-669-606-00	SCREW (2.6)	
522	8-825-508-10	HEAD, FE	
523	🌢:X-3669-313-0	BASE ASSY, SLANT	
524	🌢:3-669-477-00	LINER, LINK, PIN	
525	3-669-597-00	ROLLER (B), RING	
526	3-669-480-00	+ PTPWH 2	

5-12. CHASSIS ASSEMBLY 4

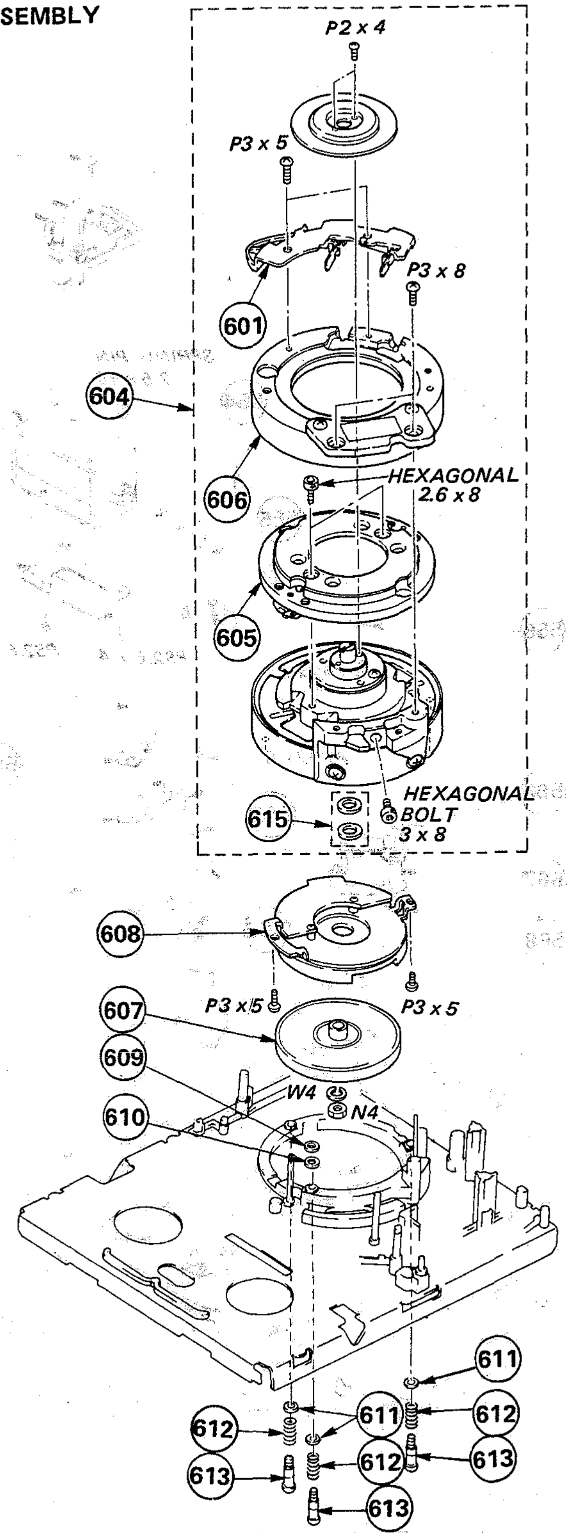

551
552
SPRING PIN
2.5x 10
553
PTP 2 x 8
554
555
557
556
PTP2x 8
PS2.6 x 4
PS2.6 x 4
558
559
PTP2x 8
566
563
560
561
567
568
562
564
565

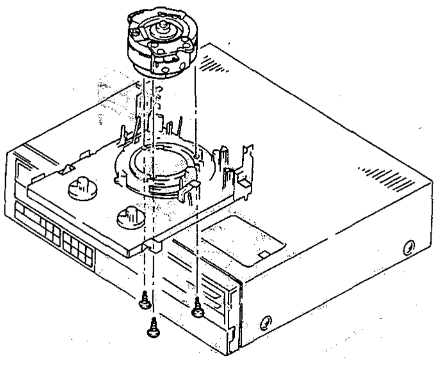
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

No.	Part No.	Description	Remark
551	3-669-607-11	+PSW (SMALL ROUND) (2.6)	
552	♠:3-671-827-00	CLAMP (D), HARNESS	
553	⚠ 1-454-282-00	SOLENOID, PLUNGER (SL-952)	555
554	X-3670-062-0	ARM ASSY, PINCH SOLENOID	
555	3-669-440-00	SPRING, TENSION	
556	3-669-465-00	WASHER (1.5), STOPPER	
557	♠:3-669-459-00	BRACKET, SOLENOID	
558	3-669-607-00	+PSW (SMALL ROUND) 2.6	
559	♠:3-669-462-00	PLATE, ADJUSTMENT, LIMITER, PINCH	
560	♠:3-669-349-00	PLATE, LOCK, T	
561	♠:X-3670-057-0	ARM ASSY, PINCH LIMITTER	562
562	3-465-159-XX	SPRING, TENSION	
563	3-669-595-00	WASHER (2), STOPPER	
564	3-669-480-11	+ PTPWH 2	
565	1-235-055-21	COIL SENSOR, T	
566	3-669-596-00	WASHER (2.3), STOPPER	
567	♠:X-3670-059-2	ARM ASSY, PINCH PRESS	
568	3-701-439-01	WASHER	

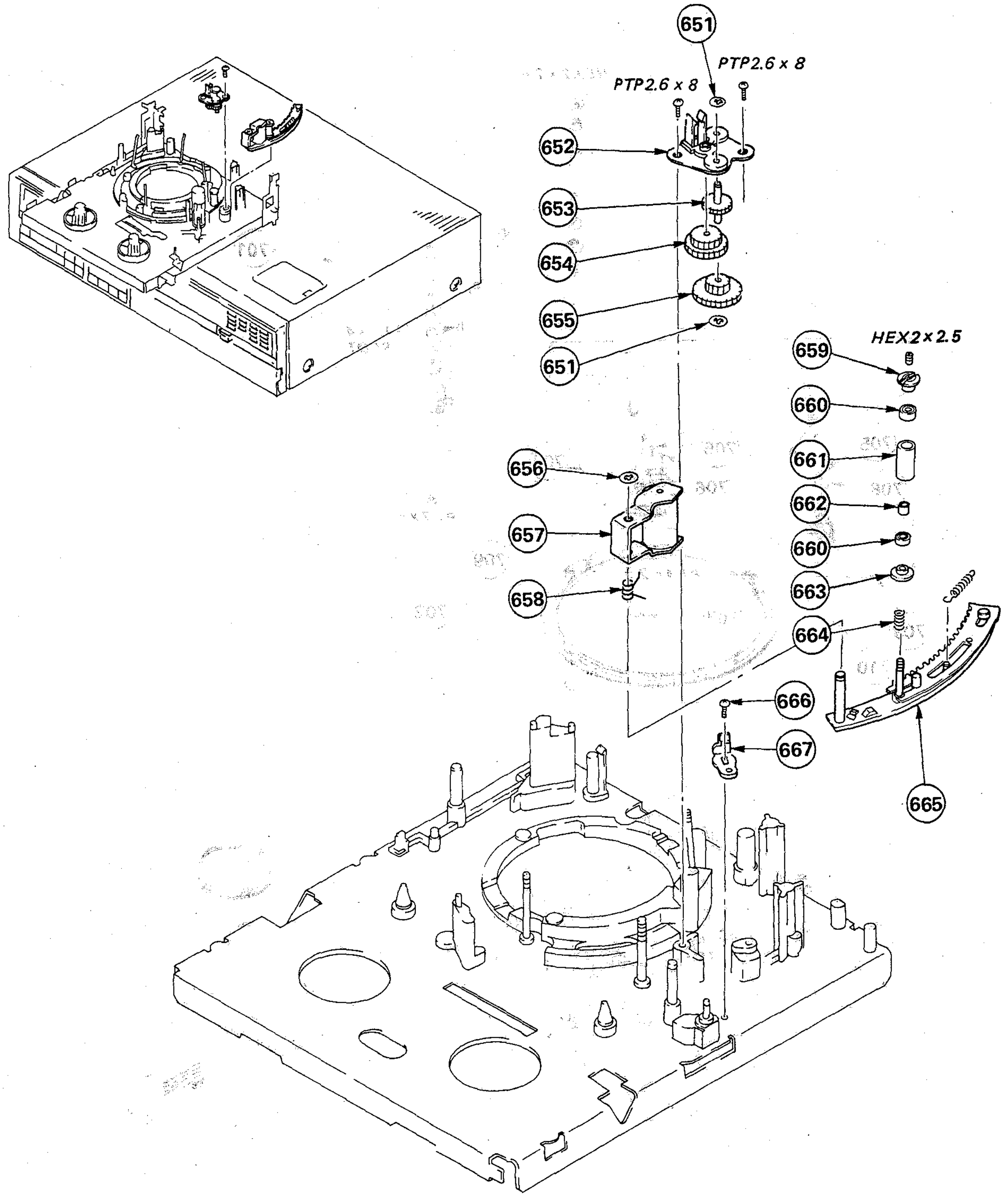
5-13. DRUM ASSEMBLY


P2 x 4
P3 x 5
P3 x 8
601
604
606
HEXAGONAL
2.6 x 8
605
HEXAGONAL
BOLT
3 x 8
615
608
P3 x 5
P3 x 5
607
609
W4
N4
610
611
612
611
612
612
613
613
613



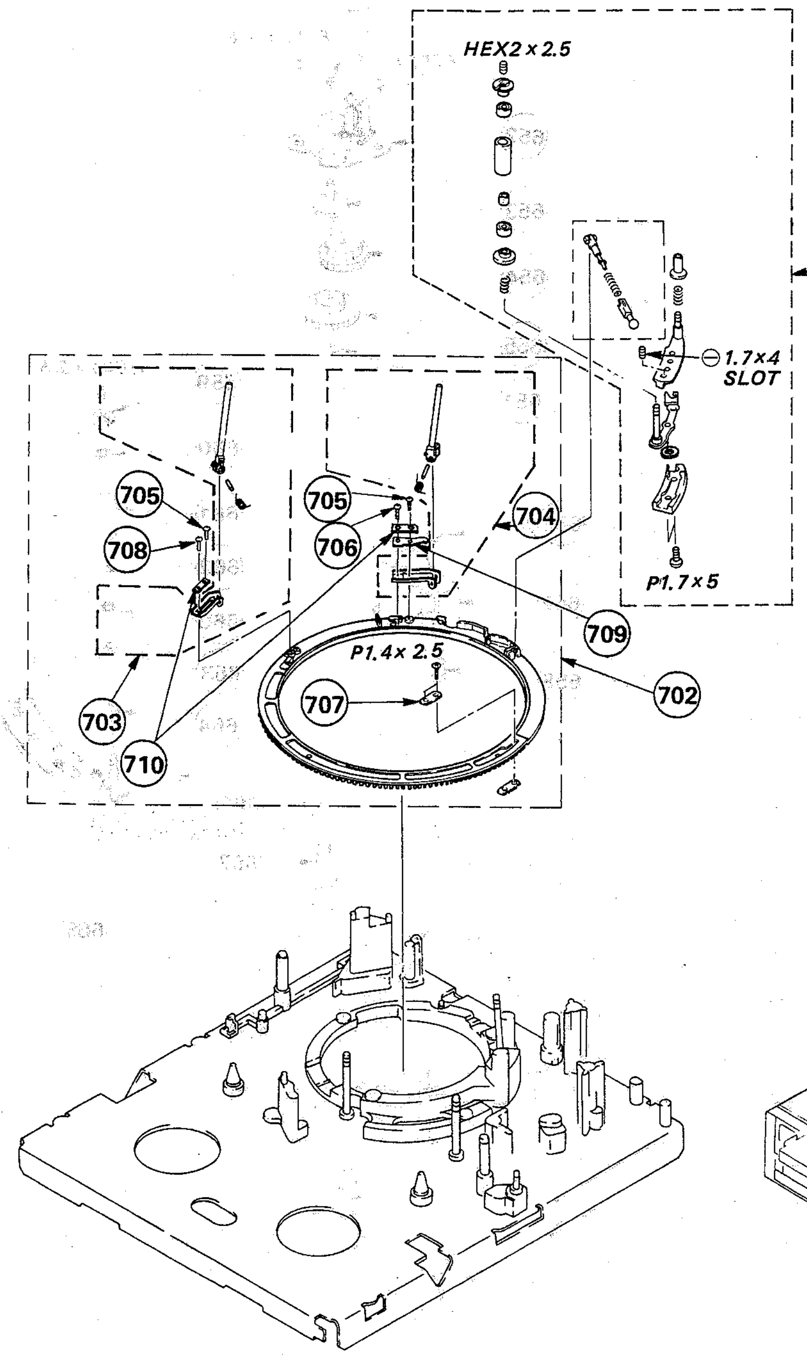
No.	Part No.	Description	Remark
601	A-6760-066-B	SPRING ASSY, TAPE RETAINER	
604	A-6050-189-A	DRUM ASSY (DSH-27B-R)	601,605,606,615
605	A-6762-125-A	DISK ASSY	
606	A-6760-117-A	DRUM ASSY UPPER	
607	X-2621-202-0	ROTAR ASSY, DRUM	
608	X-2621-210-0	STATOR ASSY, DRUM	
609	♠:3-669-646-00	SPACER, DRUM	
610	♠:3-669-646-11	SPACER, DRUM	
611	3-669-600-11	WASHER, FLAT (3.5)	
612	3-429-123-00	SPRING	
613	3-669-302-00	SCREW, FITTING	
615	X-3669-105-0	SPACER BLOCK ASSY	

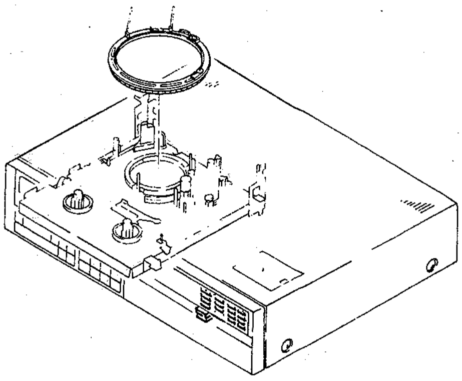
5-14. CHASSIS ASSEMBLY 5


651
PTP2.6 x 8
PTP2.6 x 8
652
653
654
655
651
HEX2×2.5
659
660
661
662
660
663
664
656
657
658
666
667
665

No.	Part No.	Description	Remark
651	3-669-465-00	WASHER (1.5), STOPPER	
652	X-3669-326-0	CHASSIS ASSY, GEAR, DRIVE	
653	X-3669-305-0	GEAR (F) ASSY	
654	3-669-338-00	GEAR (E)	
655	3-669-337-00	GEAR (D)	
656	3-669-596-00	WASHER (2.3), STOPPER	
657	X-3670-063-0	ARM ASSY, PINCH ROLLER	
658	3-669-444-00	SPRING, TORSION	
659	3-669-431-00	FLANGE (UPPER), GUIDE	
660	3-669-443-00	BEARING, BALL (NO FLANGE)	
661	3-669-438-00	ROLLER, GUIDE	
662	3-657-841-31	SPACER (2X2.5)	
663	3-669-432-00	FLANGE (LOWER), GUIDE	
664	3-669-452-00	SPRING, COMPRESSION	
665	♠:X-3669-350-0	GEAR ASSY, SLIDER	
666	3-669-607-31	+PSW (SMALL ROUND) (2.6)	
667	♠:3-669-350-00	STOPPER, SLIDER	

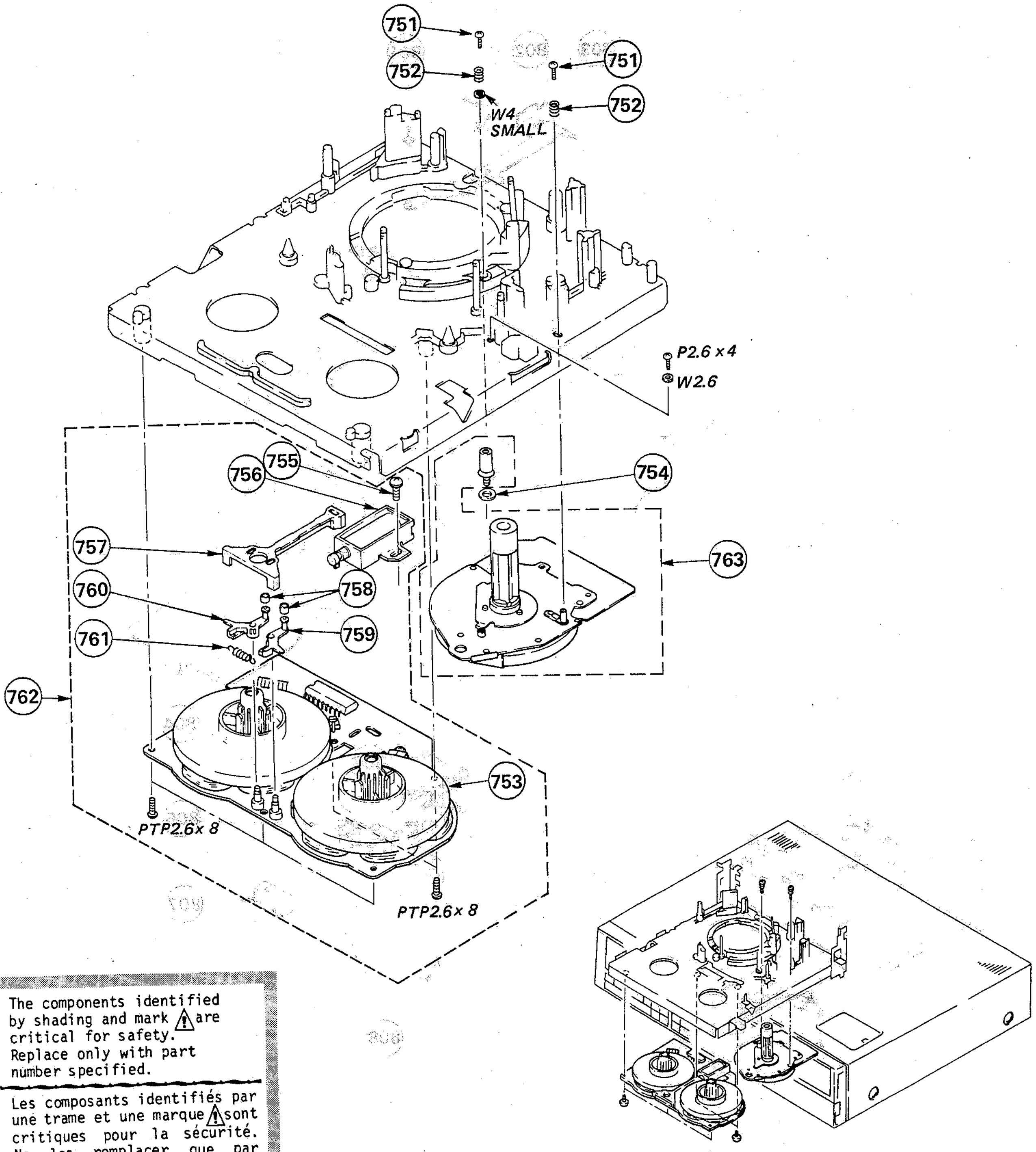
5-15. CHASSIS ASSEMBLY 6


HEX2 x 2.5
701
⊖1.7x4
SLOT
P1.7x5
705
708
705
706
704
709
P1.4x 2.5
702
707
703
710



No.	Part No.	Description	Remark
701	A-6750-108-B	SHUTTLE BLOCK ASSY, THREADING	
702	X-3669-431-0	RING ASSY, S LOADING	703-710
703	♠:X-3669-429-0	HOLDER BLOCK ASSY, #2 GUIDE	
704	♠:X-3669-430-0	HOLDER BLOCK ASSY, #3 GUIDE	
705	3-669-478-00	SCREW (1X3), TAPPING	
706	3-669-479-11	SCREW (1.4X3.5), TAPPING	
707	♠:3-669-616-00	RETAINER	
708	3-672-586-00	SCREW (1.4X3), TAPPING	
709	3-672-583-00	SPRING	
710	♠:3-669-472-00	RETAINER, SPRING, LEAF	

5-16. CHASSIS ASSEMBLY 7

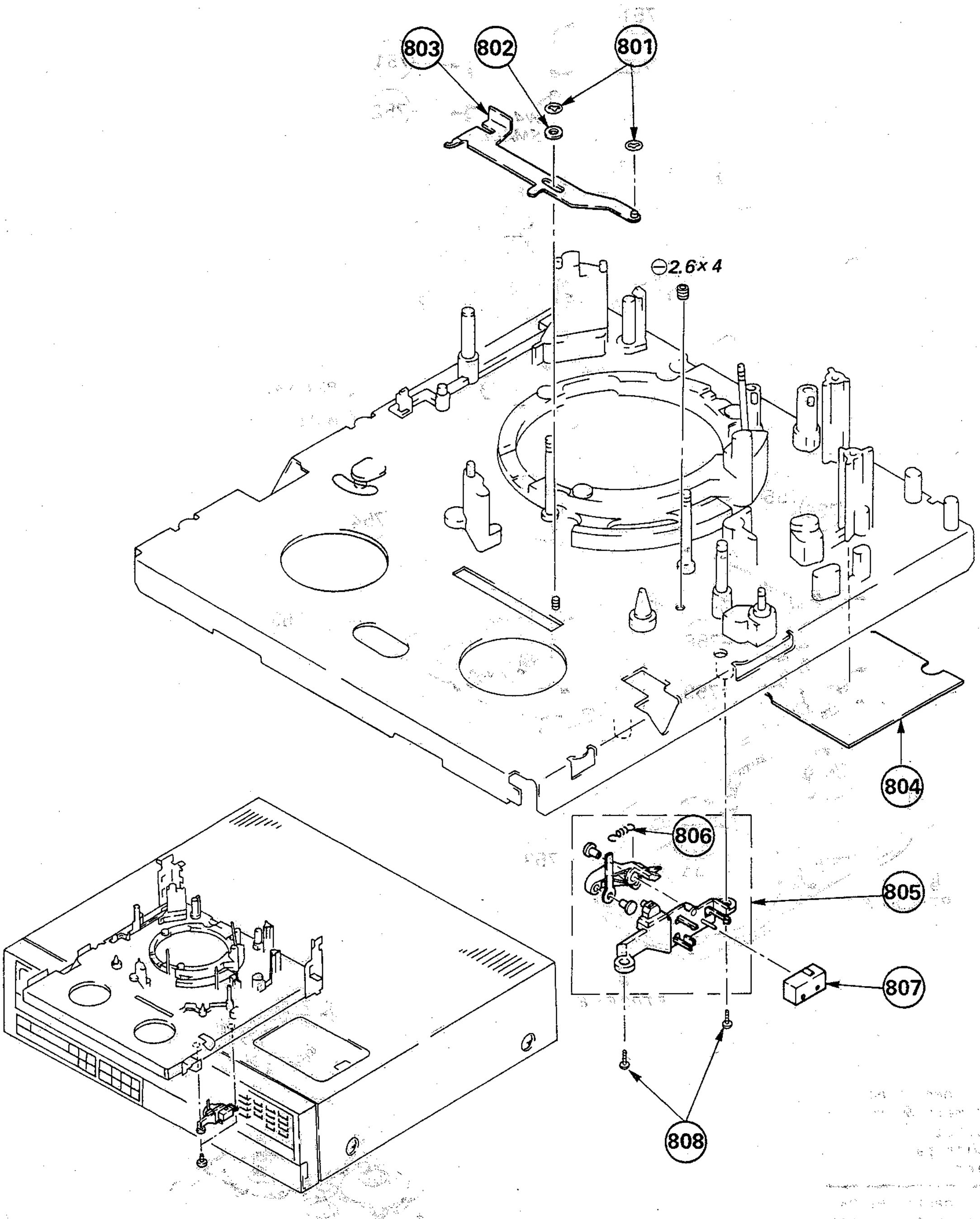

751
752
W4 SMALL
751
752
P2.6 x 4
W2.6
754
755
756
757
763
758
760
759
761
762
753
PTP2.6x 8
PTP2.6x 8

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

No.	Part No.	Description	Remark
751	3-669-633-00	SCREW, + PW2	
752	3-669-602-00	SPRING, COMPRESSION	
753	8-838-021-11	MOTOR, DC (BHF-1800B)	
754	3-669-697-00	SPACER, CAPSTAN	
755	3-669-663-00	+PSW 2.6	
756	⚠1-454-281-21	SOLENOID, PLUNGER (SL-951)	
757	♠:3-669-530-00	ARM, BRAKE	
758	3-669-305-00	BUSHING	
759	♠:3-669-303-00	BRAKE, T	
760	♠:3-669-304-00	BRAKE, S	
761	3-491-360-00	SPRING, TENSION	
762	A-6737-093-A	MOTOR BLOCK ASSY, REEL	753,755-761
763	8-838-022-11	MOTOR, DC (BHF-1900B)	

5-17. CHASSIS ASSEMBLY 8


803
802
801
⊖2.6×4
804
806
805
807
808

No.	Part No.	Description	Remark
801	3-669-595-00	WASHER (2), STOPPER	
802	3-701-438-21	WASHER	
803	♠:X-3670-021-0	PLATE ASSY, UNLOCK	
804	♠:3-669-599-00	INSULATOR	
805	♠:X-3669-323-0	MR ASSY	806
806	♠:3-669-411-00	SPRING, TENSION	
807	1-553-717-00	SWITCH, MICRO	
808	3-669-480-11	+ PTPWH 2	

HARDWARE LIST

SCREW

7-621-759-35	+PSW, 2.6X5
7-621-759-45	+PSW, 2.6X6
7-685-534-19	SCREW +BTP 2.6X8 TYPE2 N-S
7-685-851-01	SCREW +BVTT 2X4 (S)
7-685-871-01	SCREW +BVTT 3X6 (S)
7-685-871-09	SCREW +BVTT 3X6 (S)
7-685-872-01	SCREW +BVTT 3X8 (S)
7-685-860-01	SCREW +BVTT 2.6X4 (S)
7-685-861-01	SCREW +BVTT 2.6X5 (S)
7-685-862-01	SCREW +BVTT 2.6X6 (S)
7-685-862-09	SCREW +BVTT 2.6X6 (S)
7-685-863-01	SCREW +BVTT 2.6X8 (S)
7-621-255-15	SCREW +P 2X3
7-621-255-25	SCREW +P 2X4
7-621-259-25	SCREW +P 2.6X4
7-621-259-45	SCREW +P 2.6X6
7-685-134-11	SCREW +P 2.6X8 TYPE2 NON-SLIT
7-685-134-21	SCREW +P 2.6X8 TYPE2 SLIT
7-685-102-11	SCREW +P 2X4 NON-SLIT TYPE 2
7-628-253-45	SCREW +PS 2X10
7-628-253-55	SCREW +PS 2X12
7-628-253-05	SCREW +PS 2X4
7-628-253-15	SCREW +PS 2X5
7-628-253-95	SCREW +PS 2.6X4
7-627-551-08	SCREW, PRECISION +P 1.4X1.6
7-627-551-28	SCREW, PRECISION +P 1.4X2.5
7-621-712-26	SET-SCREW, SLOT 2.6X3FLAT POINT
7-621-712-35	SET-SCREW, SLOT 2.6X4CONE POINT
7-621-712-36	SET-SCREW, SLOT 2.6X4FLAT POINT
7-621-710-55	SET-SCREW, SLOT 2X6 CONE POINT
7-621-731-08	SET-SCT, HEX. 2X2.5, FLAT POINT
7-623-205-22	SW 2, TYPE 2
7-682-250-09	SCREW +K 3X12
7-682-641-01	SCREW +P 3X6
7-682-647-01	SCREW +PS 3X6
7-682-949-09	SCREW +PSW 3X10
7-682-951-01	SCREW +PSW 3X14
7-685-645-71	SCEW TA, +BV 3X6

SPRING PIN

7-626-302-11	SPRING PIN 2.5X10

STOP RING

7-624-105-04	STOP RING 2.3, TYPE -E
7-624-106-04	STOP RING 3.0, TYPE -E

TAPING PIN

7-685-105-11	TPG +P 2X8, TYPE 2, NON-SLIT

NUT

7-622-205-05	N 2, TYPE 2

WASHER

7-688-001-11	W 2, MIDDLE
7-688-001-01	W 2, SMALL
7-688-002-11	W 2.6, MIDDLE
7-688-004-01	W 4, SMALL
7-623-308-07	LW 3, INTERNAL

SECTION 6
ELECTRICAL PARTS LIST

NOTE:

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

- =>: Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.

- Items marked " ♠ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

CAPACITORS
- MF : μF, PF : μμF

RESISTORS
- All resistors are in ohms
- F : nonflammable

COILS
- MMH : mH, UH : μH

Ref.No.	Part No.	Description				Remark
	♠:A-6711-388-A	RP-10 BOARD, COMPLETE **********************				
	♠:X-3679-816-0	LID ASSY, REAR, SHIELD CASE				
	♠:3-679-946-00	SHIELD CASE (MAIN), RP-10				
		CAPACITOR				
C003	1-102-963-00	CERAMIC	33PF			
C004	1-123-622-00	ELECT	22MF	20%	16V	
C005	1-123-622-00	ELECT	22MF	20%	16V	
C006	1-161-013-00	CERAMIC	0.01MF	10%	25V	
C007	1-123-622-00	ELECT	22MF	20%	16V	
C008	1-161-013-00	CERAMIC	0.01MF	10%	25V	
C009	1-161-013-00	CERAMIC	0.01MF	10%	25V	
C012	1-123-612-00	ELECT	2.2MF	20%	50V	
C013	1-123-612-00	ELECT	2.2MF	20%	50V	
C014	1-123-612-00	ELECT	2.2MF	20%	50V	
C015	1-102-959-00	CERAMIC	22PF	5%	50V	
C016	1-102-961-00	CERAMIC	27PF	5%	50V	
C017	1-102-953-00	CERAMIC	18PF	5%	50V	
C018	1-161-013-00	CERAMIC	0.01MF	10%	25V	
C019	1-161-013-00	CERAMIC	0.01MF	10%	25V	
C020	1-161-013-00	CERAMIC	0.01MF	10%	25V	
C021	1-123-622-00	ELECT	22MF	20%	16V	
C022	1-161-013-00	CERAMIC	0.01MF	10%	25V	
C023	1-123-612-00	ELECT	2.2MF	20%	50V	
C024	1-102-973-00	CERAMIC	100PF	5%	50V	
C025	1-161-039-00	CERAMIC	0.001MF	10%	25V	
C026	1-102-972-00	CERAMIC	91PF	5%	50V	
C027	1-102-949-00	CERAMIC	12PF	5%	50V	
C051	1-161-013-00	CERAMIC	0.01MF	10%	25V	
C052	1-161-013-00	CERAMIC	0.01MF	10%	25V	
C053	1-161-013-00	CERAMIC	0.01MF	10%	25V	
C054	1-161-013-00	CERAMIC	0.01MF	10%	25V	
C058	1-123-622-00	ELECT	22MF	20%	16V	
C059	1-123-622-00	ELECT	22MF	20%	16V	
C060	1-161-013-00	CERAMIC	0.01MF	10%	25V	
C061	1-161-013-00	CERAMIC	0.01MF	10%	25V	
		CONNECTOR				
CN001	♠:1-564-007-00	PIN, CONNECTOR 8P				
CN002	♠:1-564-007-00	PIN, CONNECTOR 8P				
CN003	♠:1-564-009-00	PIN, CONNECTOR 10P				
CN004	♠:1-564-009-31	PIN, CONNECTOR 10P				
CN005	♠:1-560-459-00	PIN, CONNECTOR 3P				
		DIODE				
D051	8-719-911-19	DIODE 1SS119				
D052	8-719-911-19	DIODE 1SS119				
		IC				
IC001	8-741-117-20	IC BX-1172				
IC002	8-743-946-10	IC BX-3946-1				

Ref.No.	Part No.	Description			Remark
		COIL			
L001	1-408-619-00	MICRO INDUCTOR 220UH			
L002	1-408-619-00	MICRO INDUCTOR 220UH			
L003	1-408-619-00	MICRO INDUCTOR 220UH			
L004	1-408-605-00	MICRO INDUCTOR 15UH			
L005	1-408-605-00	MICRO INDUCTOR 15UH			
L006	1-408-606-00	MICRO INDUCTOR 18UH			
L007	1-408-619-00	MICRO INDUCTOR 220UH			
L008	1-408-615-00	MICRO INDUCTOR 100UH			
		TRANSISTOR			
Q001	8-724-375-01	TRANSISTOR 2SC403C			
Q002	8-729-178-54	TRANSISTOR 2SC2785			
Q051	8-729-902-11	TRANSISTOR 2SC2021			
Q052	8-729-902-11	TRANSISTOR 2SC2021			
Q053	8-729-902-11	TRANSISTOR 2SC2021			
Q054	8-729-902-11	TRANSISTOR 2SC2021			
Q055	8-729-902-11	TRANSISTOR 2SC2021			
		RESISTOR			
R001	1-246-847-00	CARBON	2K	1/8W	
R002	1-246-786-00	CARBON	1.8K	1/8W	
R003	1-246-843-00	CARBON	910	1/8W	
R004	1-246-783-00	CARBON	1K	1/8W	
R005	1-246-850-00	CARBON	3.6K	1/8W	
R006	1-246-850-00	CARBON	3.6K	1/8W	
R007	1-246-783-00	CARBON	1K	1/8W	
R008	1-246-791-00	CARBON	4.7K	1/8W	
R009	1-246-841-00	CARBON	620	1/8W	
R010	1-246-787-00	CARBON	2.2K	1/8W	
R011	1-246-791-00	CARBON	4.7K	1/8W	
R014	1-246-794-00	CARBON	8.2K	1/8W	
R015	1-246-807-00	CARBON	100K	1/8W	
R016	1-246-789-00	CARBON	3.3K	1/8W	
R017	1-246-848-00	CARBON	2.4K	1/8W	
R051	1-246-803-00	CARBON	47K	1/8W	
R052	1-246-799-00	CARBON	22K	1/8W	
R053	1-246-791-00	CARBON	4.7K	1/8W	
R054	1-246-793-00	CARBON	6.8K	1/8W	
R055	1-246-803-00	CARBON	47K	1/8W	
R056	1-246-799-00	CARBON	22K	1/8W	
R057	1-246-791-00	CARBON	4.7K	1/8W	
R058	1-246-793-00	CARBON	6.8K	1/8W	
R059	1-246-771-00	CARBON	100	1/8W	
R060	1-246-776-00	CARBON	270	1/8W	
R061	1-246-791-00	CARBON	4.7K	1/8W	
R062	1-246-776-00	CARBON	270	1/8W	
R063	1-246-791-00	CARBON	4.7K	1/8W	
R064	1-246-776-00	CARBON	270	1/8W	
R065	1-246-791-00	CARBON	4.7K	1/8W	
R066	1-246-771-00	CARBON	100	1/8W	
R067	1-246-799-00	CARBON	22K	1/8W	

Ref.No.	Part No.	Description	Remark

VARIABLE RESISTOR

Ref.No.	Part No.	Description
RV001	1-228-746-00	RES, ADJ, CARBON 2.2K
RV002	1-228-747-00	RES, ADJ, CARBON 4.7K
RV003	1-228-746-00	RES, ADJ, CARBON 2.2K
RV004	1-228-745-00	RES, ADJ, CARBON 1K
RV005	1-228-745-00	RES, ADJ, CARBON 1K

TRANSFORMER

Ref.No.	Part No.	Description
T001	1-404-410-00	COIL, TRAP

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♠:A-6711-391-A VI-1 BOARD, COMPLETE
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♠:X-3679-817-0 LID ASSY, REAR, SHIELD CASE VI
♠:3-679-947-00 SHIELD CASE (MAIN), VI

CAPACITOR

Ref.No.	Part No.	Description			Remark
C101	1-161-013-00	CERAMIC	0.01MF	10%	25V
C104	1-102-950-00	CERAMIC	13PF	5%	50V
C107	1-101-888-00	CERAMIC	68PF	5%	50V
C108	1-102-972-00	CERAMIC	91PF	5%	50V
C109	1-161-013-00	CERAMIC	0.01MF	10%	25V
C110	1-101-888-00	CERAMIC	68PF	5%	50V
C111	1-123-356-00	ELECT	10MF	20%	16V
C114	1-102-820-00	CERAMIC	330PF	5%	50V
C115	1-130-489-00	MYLAR	0.033MF	5%	50V
C116	1-102-939-61	CERAMIC	2PF	0.5PF	50V
C117	1-102-822-00	CERAMIC	390PF	5%	50V
C118	1-161-021-00	CERAMIC	0.047MF	10%	25V
C119	1-161-021-00	CERAMIC	0.047MF	10%	25V
C120	1-123-381-00	ELECT	2.2MF	20%	50V
C121	1-123-356-00	ELECT	10MF	20%	16V
C122	1-123-305-00	ELECT	33MF	20%	10V
C123	1-123-356-00	ELECT	10MF	20%	16V
C124	1-123-305-00	ELECT	33MF	20%	10V
C125	1-123-356-00	ELECT	10MF	20%	16V
C126	1-123-380-00	ELECT	1MF	20%	50V
C127	1-123-305-00	ELECT	33MF	20%	10V
C128	1-123-380-00	ELECT	1MF	20%	50V
C132	1-161-013-00	CERAMIC	0.01MF	10%	25V
C133	1-161-021-00	CERAMIC	0.047MF	10%	25V
C134	1-102-820-00	CERAMIC	330PF	5%	50V
C135	1-102-820-00	CERAMIC	330PF	5%	50V
C137	1-101-884-00	CERAMIC	56PF	5%	50V
C138	1-102-965-00	CERAMIC	39PF	5%	50V
C139	1-161-013-00	CERAMIC	0.01MF	10%	25V
C140	1-161-013-00	CERAMIC	0.01MF	10%	25V
C141	1-161-021-00	CERAMIC	0.047MF	10%	25V
C142	1-101-884-00	CERAMIC	56PF	5%	50V
C201	1-123-330-00	ELECT	22MF	20%	16V
C202	1-101-888-00	CERAMIC	68PF	5%	50V
C203	1-102-962-00	CERAMIC	30PF	5%	50V
C204	1-123-356-00	ELECT	10MF	20%	16V
C205	1-161-013-00	CERAMIC	0.01MF	10%	25V
C206	1-123-356-00	ELECT	10MF	20%	16V
C207	1-101-059-00	CERAMIC	510PF	5%	50V
C208	1-123-330-00	ELECT	22MF	20%	16V
C209	1-123-380-00	ELECT	1MF	20%	50V
C210	1-123-340-00	ELECT	4.7MF	20%	35V
C211	1-102-074-00	CERAMIC	0.001MF	10%	50V
C212	1-123-356-00	ELECT	10MF	20%	16V
C213	1-123-380-00	ELECT	1MF	20%	50V
C215	1-102-971-00	CERAMIC	82PF	5%	50V
C216	1-123-330-00	ELECT	22MF	20%	16V
C218	1-101-081-00	CERAMIC	130PF	5%	50V
C219	1-123-296-00	ELECT	220MF	20%	6.3V
C220	1-123-340-00	ELECT	4.7MF	20%	35V
C221	1-123-330-00	ELECT	22MF	20%	16V
C222	1-123-330-00	ELECT	22MF	20%	16V
C223	1-123-330-00	ELECT	22MF	20%	16V
C224	1-102-074-00	CERAMIC	0.001MF	10%	50V
C225	1-161-021-00	CERAMIC	0.047MF	10%	25V
C226	1-161-021-00	CERAMIC	0.047MF	10%	25V
C227	1-102-962-00	CERAMIC	30PF	5%	50V
C228	1-101-888-00	CERAMIC	68PF	5%	50V
C229	1-102-936-00	CERAMIC	3PF	0.25PF	50V
C230	1-161-013-00	CERAMIC	0.01MF	10%	25V
C231	1-123-380-00	ELECT	1MF	20%	50V
C232	1-102-953-00	CERAMIC	18PF	5%	50V
C233	1-101-888-00	CERAMIC	68PF	5%	50V
C234	1-161-013-00	CERAMIC	0.01MF	10%	25V
C235	1-102-964-00	CERAMIC	36PF	5%	50V
C236	1-101-884-00	CERAMIC	56PF	5%	50V
C237	1-161-013-00	CERAMIC	0.01MF	10%	25V
C238	1-102-816-00	CERAMIC	120PF	5%	50V
C239	1-102-951-00	CERAMIC	15PF	5%	50V
C240	1-101-884-00	CERAMIC	56PF	5%	50V
C241	1-102-959-00	CERAMIC	22PF	5%	50V
C242	1-123-356-00	ELECT	10MF	20%	16V
C243	1-101-059-00	CERAMIC	510PF	5%	50V
C244	1-123-356-00	ELECT	10MF	20%	16V
C245	1-161-013-00	CERAMIC	0.01MF	10%	25V
C246	1-161-013-00	CERAMIC	0.01MF	10%	25V
C247	1-123-330-00	ELECT	22MF	20%	16V
C248	1-161-013-00	CERAMIC	0.01MF	10%	25V
C249	1-102-074-00	CERAMIC	0.001MF	10%	50V
C250	1-161-013-00	CERAMIC	0.01MF	10%	25V
C251	1-161-021-00	CERAMIC	0.047MF	10%	25V
C253	1-101-880-00	CERAMIC	47PF	5%	50V
C301	1-130-495-00	MYLAR	0.1MF	5%	50V
C302	1-123-613-00	ELECT	3.3MF	20%	50V
C303	1-123-356-00	ELECT	10MF	20%	16V
C304	1-123-380-00	ELECT	1MF	20%	50V
C305	1-123-306-00	ELECT	47MF	20%	10V
C306	1-123-305-00	ELECT	33MF	20%	10V

Ref.No.	Part No.	Description			Remark
C307	1-102-961-00	CERAMIC	27PF	5%	50V
C308	1-123-356-00	ELECT	10MF	20%	16V
C309	1-123-356-00	ELECT	10MF	20%	16V
C310	1-161-021-00	CERAMIC	0.047MF	10%	25V
C311	1-102-963-00	CERAMIC	33PF	5%	50V
C312	1-123-305-00	ELECT	33MF	20%	10V
C313	1-123-380-00	ELECT	1MF	20%	50V
C314	1-102-116-00	CERAMIC	680PF	10%	50V
C315	1-102-116-00	CERAMIC	680PF	10%	50V
C316	1-123-340-00	ELECT	4.7MF	20%	35V
C317	1-131-345-00	ELECT(SOLID)	0.47MF	10%	25V
C318	1-161-013-00	CERAMIC	0.01MF	10%	25V
C319	1-123-318-00	ELECT	33MF	20%	16V
C320	1-161-013-00	CERAMIC	0.01MF	10%	25V
C321	1-161-021-00	CERAMIC	0.047MF	10%	25V
C322	1-161-013-00	CERAMIC	0.01MF	10%	25V
C323	1-161-013-00	CERAMIC	0.01MF	10%	25V
C324	1-123-039-00	ELECT	22MF	20%	16V
C325	1-102-973-00	CERAMIC	100PF	5%	50V
C326	1-131-347-00	ELECT(SOLID)	1MF	20%	16V
C327	1-161-013-00	CERAMIC	0.01MF	10%	25V
C328	1-123-356-00	ELECT	10MF	20%	16V
C329	1-102-976-00	CERAMIC	180PF	5%	50V
C330	1-161-013-00	CERAMIC	0.01MF	10%	25V
C331	1-123-380-00	ELECT	1MF	20%	50V
C332	1-102-972-00	CERAMIC	91PF	5%	50V
C333	1-102-978-00	CERAMIC	220PF	5%	50V
C334	1-123-356-00	ELECT	10MF	20%	16V
C335	1-102-820-00	CERAMIC	330PF	5%	50V
C336	1-102-977-00	CERAMIC	200PF	5%	50V
C337	1-130-489-00	MYLAR	0.033MF	5%	50V
C338	1-101-059-00	CERAMIC	510PF	5%	50V
C339	1-161-021-00	CERAMIC	0.047MF	10%	25V
C340	1-108-555-00	MYLAR	0.001MF	5%	50V
C341	1-102-820-00	CERAMIC	330PF	5%	50V
C342	1-108-555-00	MYLAR	0.001MF	5%	50V
C343	1-101-361-00	CERAMIC	150PF	5%	50V
C345	1-102-959-00	CERAMIC	22PF	5%	50V
C347	1-102-963-00	CERAMIC	33PF	5%	50V
C401	1-161-021-00	CERAMIC	0.047MF	10%	25V
C402	1-123-356-00	ELECT	10MF	20%	16V
C403	1-102-074-00	CERAMIC	0.001MF	10%	50V
C404	1-161-013-00	CERAMIC	0.01MF	10%	25V
C405	1-123-379-00	ELECT	0.47MF	20%	50V
C406	1-123-379-00	ELECT	0.47MF	20%	50V
C407	1-123-318-00	ELECT	33MF	20%	16V
C408	1-123-332-00	ELECT	47MF	20%	16V
C409	1-161-021-00	CERAMIC	0.047MF	10%	25V
C410	1-123-330-00	ELECT	22MF	20%	16V
C411	1-123-607-00	ELECT	0.1MF	20%	50V
C412	1-161-021-00	CERAMIC	0.047MF	10%	25V
C413	1-161-021-00	CERAMIC	0.047MF	10%	25V
C414	1-102-516-00	CERAMIC	27PF	5%	50V
C415	1-123-332-00	ELECT	47MF	20%	16V
C416	1-123-330-00	ELECT	22MF	20%	16V
C417	1-161-021-00	CERAMIC	0.047MF	10%	25V
C418	1-102-074-00	CERAMIC	0.001MF	10%	50V
C419	1-102-074-00	CERAMIC	0.001MF	10%	50V
C420	1-102-963-00	CERAMIC	33PF	5%	50V
C421	1-161-013-00	CERAMIC	0.01MF	10%	25V
C422	1-161-013-00	CERAMIC	0.01MF	10%	25V
C424	1-123-381-00	ELECT	2.2MF	20%	50V
C425	1-161-005-00	CERAMIC	0.0022MF	10%	25V
C426	1-161-021-00	CERAMIC	0.047MF	10%	25V
C427	1-161-013-00	CERAMIC	0.01MF	10%	25V
C430	1-102-965-00	CERAMIC	39PF	5%	50V
C431	1-161-021-00	CERAMIC	0.047MF	10%	25V
C432	1-102-962-00	CERAMIC	30PF	5%	50V
C433	1-101-059-00	CERAMIC	510PF	5%	50V
C434	1-102-949-00	CERAMIC	12PF	5%	50V
C435	1-161-013-00	CERAMIC	0.01MF	10%	25V
C436	1-101-888-00	CERAMIC	68PF	5%	50V
C437	1-123-356-00	ELECT	10MF	20%	16V
C438	1-123-356-00	ELECT	10MF	20%	16V
C439	1-101-888-00	CERAMIC	68PF	5%	50V
C440	1-102-978-00	CERAMIC	220PF	5%	50V
C441	1-161-013-00	CERAMIC	0.01MF	10%	25V
C442	1-123-379-00	ELECT	0.47MF	20%	50V
C443	1-161-013-00	CERAMIC	0.01MF	10%	25V
C444	1-161-013-00	CERAMIC	0.01MF	10%	25V
C445	1-123-382-00	ELECT	3.3MF	20%	50V
C446	1-161-013-00	CERAMIC	0.01MF	10%	25V
C447	1-161-013-00	CERAMIC	0.01MF	10%	25V
C448	1-102-074-00	CERAMIC	0.001MF	10%	50V
C449	1-161-013-00	CERAMIC	0.01MF	10%	25V
C451	1-123-380-00	ELECT	1MF	20%	50V
C452	1-161-005-00	CERAMIC	0.0022MF	10%	25V
C453	1-102-074-00	CERAMIC	0.001MF	10%	50V
C454	1-123-380-00	ELECT	1MF	20%	50V
C455	1-102-958-00	CERAMIC	20PF	5%	50V
C458	1-123-356-00	ELECT	10MF	20%	16V
C460	1-102-965-00	CERAMIC	39PF	5%	50V
C463	1-161-021-00	CERAMIC	0.047MF	10%	25V
C464	1-101-880-00	CERAMIC	47PF	5%	50V
C501	1-161-021-00	CERAMIC	0.047MF	10%	25V
C502	1-123-381-00	ELECT	2.2MF	20%	50V
C503	1-161-021-00	CERAMIC	0.047MF	10%	25V
C504	1-101-888-00	CERAMIC	68PF	5%	50V
C505	1-161-013-00	CERAMIC	0.01MF	10%	25V
C506	1-102-074-00	CERAMIC	0.001MF	10%	50V
C507	1-102-074-00	CERAMIC	0.001MF	10%	50V
C508	1-161-013-00	CERAMIC	0.01MF	10%	25V
C509	1-102-074-00	CERAMIC	0.001MF	10%	50V
C510	1-102-074-00	CERAMIC	0.001MF	10%	50V
C511	1-161-013-00	CERAMIC	0.01MF	10%	25V
C512	1-123-356-00	ELECT	10MF	20%	16V

Ref.No.	Part No.	Description			Remark
C513	1-123-305-00	ELECT	33MF	20%	10V
C514	1-130-495-00	MYLAR	0.1MF	5%	50V
C515	1-123-381-00	ELECT	2.2MF	20%	50V
C516	1-161-021-00	CERAMIC	0.047MF	10%	25V
C517	1-123-382-00	ELECT	3.3MF	20%	50V
C518	1-123-382-00	ELECT	3.3MF	20%	50V
C519	1-102-125-00	CERAMIC	0.0047MF	10%	50V
C520	1-161-013-00	CERAMIC	0.01MF	10%	25V
C601	1-102-958-00	CERAMIC	20PF	5%	50V
C602	1-123-297-00	ELECT	330MF	20%	6.3V
C603	1-123-838-00	ELECT	1000MF	20%	6.3V
C604	1-123-356-00	ELECT	10MF	20%	16V
C605	1-123-307-00	ELECT	100MF	20%	10V
C606	1-123-380-00	ELECT	1MF	20%	50V
C607	1-102-973-00	CERAMIC	100PF	5%	50V
C608	1-161-021-00	CERAMIC	0.047MF	10%	25V
C609	1-123-356-00	ELECT	10MF	20%	16V
C610	1-123-356-00	ELECT	10MF	20%	16V
C611	1-123-356-00	ELECT	10MF	20%	16V
C612	1-123-333-00	ELECT	100MF	20%	16V
C613	1-123-380-00	ELECT	1MF	20%	50V
C614	1-161-013-00	CERAMIC	0.01MF	10%	25V
C701	1-161-013-00	CERAMIC	0.01MF	10%	25V
C702	1-161-013-00	CERAMIC	0.01MF	10%	25V
C703	1-161-013-00	CERAMIC	0.01MF	10%	25V
C704	1-123-310-00	ELECT	470MF	20%	10V
C706	1-123-356-00	ELECT	10MF	20%	16V
C901	1-123-294-00	ELECT	47MF	20%	6.3V
C902	1-123-294-00	ELECT	47MF	20%	6.3V
C903	1-123-330-00	ELECT	22MF	20%	16V
C904	1-123-330-00	ELECT	22MF	20%	16V
C905	1-123-306-00	ELECT	47MF	20%	10V
C906	1-123-306-00	ELECT	47MF	20%	10V
C907	1-102-973-00	CERAMIC	100PF	5%	50V
C908	1-102-973-00	CERAMIC	100PF	5%	50V
C909	1-102-945-00	CERAMIC	8PF	1PF	50V
C910	1-102-945-00	CERAMIC	8PF	1PF	50V
C911	1-102-959-00	CERAMIC	22PF	5%	50V
C912	1-102-959-00	CERAMIC	22PF	5%	50V
C913	1-123-330-00	ELECT	22MF	20%	16V
C914	1-123-330-00	ELECT	22MF	20%	16V
C915	1-123-356-00	ELECT	10MF	20%	16V
C916	1-123-356-00	ELECT	10MF	20%	16V

FILTER

Ref.No.	Part No.	Description	Remark
CF001	1-527-831-00	FILTER, CERAMIC	
CF002	1-527-823-00	FILTER, CERAMIC	
CF003	1-527-823-00	FILTER, CERAMIC	
CF004	1-231-302-00	CERAMIC FILTER (4.27MHZ)	

CONNECTOR

Ref.No.	Part No.	Description	Remark
CN002♠:	1-560-461-00	PIN, CONNECTOR 5P	
CN003♠:	1-560-470-00	PIN, CONNECTOR 8P	
CN004♠:	1-560-471-00	PIN, CONNECTOR 10P	
CN005♠:	1-560-468-00	PIN, CONNECTOR 5P	
CN006♠:	1-560-467-00	PIN, CONNECTOR 4P	
CN007♠:	1-560-471-00	PIN, CONNECTOR 10P	
CN009♠:	1-560-468-00	PIN, CONNECTOR 5P	
CN011♠:	1-560-470-00	PIN, CONNECTOR 8P	
CN012	1-561-703-00	CONNECTOR, DIN 8P	
CN013	1-507-742-00	JACK, PIN 2P	
CN014♠:	1-560-470-00	PIN, CONNECTOR 8P	
CN015♠:	1-560-470-00	PIN, CONNECTOR 8P	
CN016♠:	1-560-470-00	PIN, CONNECTOR 8P	
CN901♠:	1-560-470-00	PIN, CONNECTOR 8P	
CN902♠:	1-560-470-00	PIN, CONNECTOR 8P	

DIODE

Ref.No.	Part No.	Description	Remark
D101	8-719-911-19	DIODE 1SS119	
D102	8-719-911-19	DIODE 1SS119	
D103	8-719-911-19	DIODE 1SS119	
D104	8-719-911-19	DIODE 1SS119	
D105	8-719-911-19	DIODE 1SS119	
D106	8-719-911-19	DIODE 1SS119	
D109	8-719-911-19	DIODE 1SS119	
D110	8-719-911-19	DIODE 1SS119	
D111	8-719-911-19	DIODE 1SS119	
D112	8-719-911-19	DIODE 1SS119	
D113	8-719-911-19	DIODE 1SS119	
D201	8-719-911-19	DIODE 1SS119	
D301	8-719-911-19	DIODE 1SS119	
D302	8-719-911-19	DIODE 1SS119	
D401	8-719-911-19	DIODE 1SS119	
D402	8-719-911-19	DIODE 1SS119	
D501	8-719-911-19	DIODE 1SS119	
D601	8-719-911-19	DIODE 1SS119	
D602	8-719-911-19	DIODE 1SS119	
D603	8-719-911-19	DIODE 1SS119	
D604	8-719-911-19	DIODE 1SS119	
D605	8-719-911-19	DIODE 1SS119	
D701	8-719-113-07	DIODE RD13E-B	
D702	8-719-113-07	DIODE RD13E-B	
D703	8-719-113-07	DIODE RD13E-B	
D704	8-719-118-07	DIODE RD18E-B	
D705	8-719-191-07	DIODE RD9.1E-B	
D706	8-719-113-07	DIODE RD13E-B	
D707	8-719-113-07	DIODE RD13E-B	
D708	8-719-113-07	DIODE RD13E-B	
D709	8-719-113-07	DIODE RD13E-B	
D710	8-719-113-07	DIODE RD13E-B	
D711	8-719-113-07	DIODE RD13E-B	
D712	8-719-118-07	DIODE RD18E-B	
D713	8-719-191-07	DIODE RD9.1E-B	
D714	8-719-191-07	DIODE RD9.1E-B	
D901	8-719-191-07	DIODE RD9.1E-B	
D902	8-719-191-07	DIODE RD9.1E-B	

Ref.No.	Part No.	Description	Remark
D903	8-719-113-07	DIODE RD13E-B	
D904	8-719-113-07	DIODE RD13E-B	
D905	8-719-113-07	DIODE RD13E-B	
D906	8-719-113-07	DIODE RD13E-B	
		DELAY LINE	
DL001	1-415-243-00	DELAY LINE (1H)	
DL002	1-415-065-00	DELAY LINE	
DL003	1-415-244-00	DELAY LINE (1/2H)	
DL004	1-415-245-00	DELAY LINE (1/4H)	
		IC	
IC003	8-759-608-64	IC CX-864	
IC004	8-759-608-65	IC CX-865	
IC005	8-758-661-00	IC CX-866A	
IC006	8-759-208-67	IC CX-867	
IC007	8-759-908-68	IC CX-868	
IC008	8-758-691-00	IC CX-869A	
IC010	8-759-919-05	IC CX-7905A	
IC011	8-743-955-00	IC BX-3955	
IC012	8-741-114-10	IC BX-1141	
IC014	8-741-114-20	IC BX-1142	
IC015	8-741-114-30	IC BX-1143	
IC016	8-759-208-92	IC CX-892	
IC017	8-759-208-94	IC CX-894	
IC018	8-752-000-80	IC CX20008	
IC091	8-759-600-08	IC CX-870A	
IC092	8-759-608-82	IC CX-882	
		COIL	
L102	1-408-607-00	MICRO INDUCTOR 22UH	
L103	1-408-611-00	MICRO INDUCTOR 47UH	
L104	1-408-615-00	MICRO INDUCTOR 100UH	
L105	1-408-616-00	MICRO INDUCTOR 120UH	
L109	1-408-619-00	MICRO INDUCTOR 220UH	
L110	1-408-618-00	MICRO INDUCTOR 180UH	
L111	1-408-605-00	MICRO INDUCTOR 15UH	
L201	1-408-612-00	MICRO INDUCTOR 56UH	
L202	1-408-611-00	MICRO INDUCTOR 47UH	
L203	1-408-397-00	MICRO INDUCTOR 1UH	
L204	1-408-397-00	MICRO INDUCTOR 1UH	
L205	1-408-613-00	MICRO INDUCTOR 68UH	
L206	1-408-611-00	MICRO INDUCTOR 47UH	
L207	1-408-607-00	MICRO INDUCTOR 22UH	
L209	1-408-613-00	MICRO INDUCTOR 68UH	
L301	1-408-613-00	MICRO INDUCTOR 68UH	
L302	1-407-502-00	MICRO INDUCTOR 6.8MMH	
L303	1-408-617-00	MICRO INDUCTOR 150UH	
L305	1-408-614-00	MICRO INDUCTOR 82UH	
L401	1-408-615-00	MICRO INDUCTOR 100UH	
L403	1-408-617-00	MICRO INDUCTOR 150UH	
L404	1-408-621-00	MICRO INDUCTOR 330UH	
L405	1-408-603-00	MICRO INDUCTOR 10UH	

Ref.No.	Part No.	Description	Remark
L406	1-408-621-00	MICRO INDUCTOR 330UH	
L407	1-408-619-00	MICRO INDUCTOR 220UH	
L501	1-408-608-00	MICRO INDUCTOR 27UH	
L502	1-408-596-00	MICRO INDUCTOR 2.7UH	
L503	1-408-596-00	MICRO INDUCTOR 2.7UH	
L504	1-408-401-00	MICRO INDUCTOR 2.2UH	
L505	1-408-401-00	MICRO INDUCTOR 2.2UH	
L701	1-421-381-00	COIL, FERRITE CHOKE	
		VARIABLE COIL	
LV001	1-408-531-00	COIL, VARIABLE	
		TRANSISTOR	
Q101	8-729-178-54	TRANSISTOR 2SC2785	
Q102	8-729-178-54	TRANSISTOR 2SC2785	
Q103	8-729-117-54	TRANSISTOR 2SA1175	
Q104	8-729-117-54	TRANSISTOR 2SA1175	
Q105	8-729-178-54	TRANSISTOR 2SC2785	
Q106	8-729-178-54	TRANSISTOR 2SC2785	
Q107	8-729-178-54	TRANSISTOR 2SC2785	
Q108	8-729-178-54	TRANSISTOR 2SC2785	
Q109	8-724-375-01	TRANSISTOR 2SC403C	
Q110	8-729-178-54	TRANSISTOR 2SC2785	
Q111	8-729-178-54	TRANSISTOR 2SC2785	
Q112	8-729-178-54	TRANSISTOR 2SC2785	
Q113	8-729-178-54	TRANSISTOR 2SC2785	
Q201	8-724-375-01	TRANSISTOR 2SC403C	
Q202	8-729-178-54	TRANSISTOR 2SC2785	
Q203	8-729-178-54	TRANSISTOR 2SC2785	
Q301	8-729-178-54	TRANSISTOR 2SC2785	
Q302	8-729-178-55	TRANSISTOR 2SC2785-E	
Q401	8-729-178-54	TRANSISTOR 2SC2785	
Q402	8-729-178-54	TRANSISTOR 2SC2785	
Q403	8-729-178-54	TRANSISTOR 2SC2785	
Q404	8-729-178-54	TRANSISTOR 2SC2785	
Q405	8-729-178-54	TRANSISTOR 2SC2785	
Q406	8-729-178-54	TRANSISTOR 2SC2785	
Q407	8-729-178-54	TRANSISTOR 2SC2785	
Q408	8-729-178-54	TRANSISTOR 2SC2785	
Q409	8-729-900-37	TRANSISTOR DTC124EF	
Q410	8-729-178-54	TRANSISTOR 2SC2785	
Q501	8-729-178-54	TRANSISTOR 2SC2785	
Q502 ⚠	8-729-178-54	TRANSISTOR 2SC2785	
Q503	8-729-178-54	TRANSISTOR 2SC2785	
Q504	8-729-178-54	TRANSISTOR 2SC2785	
Q505	8-729-178-54	TRANSISTOR 2SC2785	
Q506	8-729-117-54	TRANSISTOR 2SA1175	
Q507	8-729-117-54	TRANSISTOR 2SA1175	
Q508	8-729-178-54	TRANSISTOR 2SC2785	
Q601	8-729-178-54	TRANSISTOR 2SC2785	
Q602	8-729-117-54	TRANSISTOR 2SA1175	
Q603	8-729-178-54	TRANSISTOR 2SC2785	
Q604	8-729-178-54	TRANSISTOR 2SC2785	

Ref.No.	Part No.	Description	Remark
Q605	8-729-113-33	TRANSISTOR 2SB733	
Q606	8-729-178-54	TRANSISTOR 2SC2785	
Q607	8-729-178-54	TRANSISTOR 2SC2785	
Q608	8-729-900-37	TRANSISTOR DTC124EF	
Q901	8-729-334-58	TRANSISTOR 2SC1345	
Q902	8-729-334-58	TRANSISTOR 2SC1345	
Q903	8-729-602-76	TRANSISTOR 2SA1027-6	
Q904	8-729-602-76	TRANSISTOR 2SA1027-6	
Q905	8-729-178-54	TRANSISTOR 2SC2785	
Q906	8-729-178-54	TRANSISTOR 2SC2785	

RESISTOR

Ref.No.	Part No.	Description				Remark
R104	1-246-801-00	CARBON	33K		1/8W	
R105	1-246-807-00	CARBON	100K		1/8W	
R106	1-246-851-00	CARBON	4.3K		1/8W	
R107	1-246-791-00	CARBON	4.7K		1/8W	
R112	1-246-792-00	CARBON	5.6K		1/8W	
R113	1-246-783-00	CARBON	1K		1/8W	
R114	1-246-775-00	CARBON	220		1/8W	
R115	1-246-786-00	CARBON	1.8K		1/8W	
R116	1-246-795-00	CARBON	10K		1/8W	
R117	1-246-803-00	CARBON	47K		1/8W	
R118	1-246-803-00	CARBON	47K	5%	1/8W	
R119	1-246-784-00	CARBON	1.2K		1/8W	
R120	1-246-795-00	CARBON	10K		1/8W	
R121	1-246-868-00	CARBON	110K		1/8W	
R122	1-246-791-00	CARBON	4.7K		1/8W	
R123	1-246-795-00	CARBON	10K		1/8W	
R124	1-246-803-00	CARBON	47K		1/8W	
R125	1-246-795-00	CARBON	10K		1/8W	
R126	1-246-799-00	CARBON	22K		1/8W	
R129	1-246-786-00	CARBON	1.8K		1/8W	
R130	1-246-809-00	CARBON	150K		1/8W	
R131	1-246-802-00	CARBON	39K		1/8W	
R132	1-246-786-00	CARBON	1.8K		1/8W	
R133	1-246-802-00	CARBON	39K		1/8W	
R134	1-246-848-00	CARBON	2.4K		1/8W	
R135	1-246-801-00	CARBON	33K		1/8W	
R136	1-246-803-00	CARBON	47K		1/8W	
R137	1-246-771-00	CARBON	100		1/8W	
R139	1-246-789-00	CARBON	3.3K		1/8W	
R140	1-246-783-00	CARBON	1K		1/8W	
R141	1-246-859-00	CARBON	20K		1/8W	
R142	1-246-801-00	CARBON	33K		1/8W	
R143	1-246-802-00	CARBON	39K		1/8W	
R144	1-246-796-00	CARBON	12K		1/8W	
R146	1-246-840-00	CARBON	510		1/8W	
R148	1-246-779-00	CARBON	470		1/8W	
R152	1-246-842-00	CARBON	750		1/8W	
R153	1-246-801-00	CARBON	33K		1/8W	
R154	1-246-805-00	CARBON	68K		1/8W	
R155	1-246-805-00	CARBON	68K		1/8W	
R156	1-246-801-00	CARBON	33K		1/8W	
R157	1-246-787-00	CARBON	2.2K		1/8W	
R158	1-246-778-00	CARBON	390		1/8W	
R159	1-246-780-00	CARBON	560		1/8W	
R161	1-246-852-00	CARBON	5.1K		1/8W	
R162	1-246-783-00	CARBON	1K		1/8W	
R163	1-246-789-00	CARBON	3.3K		1/8W	
R164	1-246-847-00	CARBON	2K		1/8W	
R165	1-246-795-00	CARBON	10K		1/8W	
R166	1-246-805-00	CARBON	68K		1/8W	
R167	1-246-801-00	CARBON	33K		1/8W	
R170	1-246-805-00	CARBON	68K		1/8W	
R171	1-246-801-00	CARBON	33K		1/8W	
R172	1-246-793-00	CARBON	6.8K		1/8W	
R173	1-246-785-00	CARBON	1.5K		1/8W	
R174	1-246-801-00	CARBON	33K		1/8W	
R175	1-246-805-00	CARBON	68K		1/8W	
R176	1-246-772-00	CARBON	120		1/8W	
R177	1-246-791-00	CARBON	4.7K		1/8W	
R201	1-246-783-00	CARBON	1K		1/8W	
R202	1-246-840-00	CARBON	510		1/8W	
R203	1-246-774-00	CARBON	180		1/8W	
R204	1-246-783-00	CARBON	1K		1/8W	
R205	1-247-052-00	CARBON	820K		1/8W	
R206	1-247-052-00	CARBON	820K		1/8W	
R207	1-246-851-00	CARBON	4.3K		1/8W	
R208	1-246-777-00	CARBON	330		1/8W	
R209	1-246-794-00	CARBON	8.2K		1/8W	
R210	1-246-778-00	CARBON	390		1/8W	
R211	1-246-783-00	CARBON	1K		1/8W	
R212	1-246-780-00	CARBON	560		1/8W	
R213	1-246-791-00	CARBON	4.7K		1/8W	
R214	1-246-791-00	CARBON	4.7K		1/8W	
R215	1-246-835-00	CARBON	200		1/8W	
R217	1-246-834-00	CARBON	160		1/8W	
R218	1-246-794-00	CARBON	8.2K		1/8W	
R219	1-246-796-00	CARBON	12K		1/8W	
R220	1-246-847-00	CARBON	2K		1/8W	
R221	1-246-847-00	CARBON	2K		1/8W	
R222	1-246-783-00	CARBON	1K		1/8W	
R229	1-246-800-00	CARBON	27K		1/8W	
R230	1-246-803-00	CARBON	47K		1/8W	
R231	1-246-834-00	CARBON	160		1/8W	
R232	1-246-785-00	CARBON	1.5K		1/8W	
R233	1-246-844-00	CARBON	1.1K		1/8W	
R234	1-246-844-00	CARBON	1.1K		1/8W	
R235	1-246-792-00	CARBON	5.6K		1/8W	
R236	1-246-779-00	CARBON	470		1/8W	
R237	1-246-791-00	CARBON	4.7K		1/8W	
R238	1-246-787-00	CARBON	2.2K		1/8W	
R239	1-246-795-00	CARBON	10K		1/8W	
R240	1-246-784-00	CARBON	1.2K		1/8W	
R241	1-246-789-00	CARBON	3.3K		1/8W	
R242	1-246-795-00	CARBON	10K		1/8W	

Ref.No.	Part No.	Description			Remark
R243	1-246-852-00	CARBON	5.1K	1/8W	
R244	1-246-791-00	CARBON	4.7K	1/8W	
R245	1-246-808-00	CARBON	120K	1/8W	
R246	1-246-781-00	CARBON	680	1/8W	
R247	1-246-783-00	CARBON	1K	1/8W	
R248	1-246-792-00	CARBON	5.6K	1/8W	
R249	1-246-779-00	CARBON	470	1/8W	
R253	1-246-849-00	CARBON	3K	1/8W	
R301	1-246-805-00	CARBON	68K	1/8W	
R302	1-246-804-00	CARBON	56K	1/8W	
R303	1-246-791-00	CARBON	4.7K	1/8W	
R304	1-246-799-00	CARBON	22K	1/8W	
R305	1-246-809-00	CARBON	150K	1/8W	
R306	1-246-807-00	CARBON	100K	1/8W	
R307	1-246-782-00	CARBON	820	1/8W	
R308	1-246-797-00	CARBON	15K	1/8W	
R309	1-246-795-00	CARBON	10K	1/8W	
R310	1-246-844-00	CARBON	1.1K	1/8W	
R311	1-246-783-00	CARBON	1K	1/8W	
R312	1-246-787-00	CARBON	2.2K	1/8W	
R313	1-247-048-00	CARBON	390K	1/8W	
R314	1-247-049-00	CARBON	470K	1/8W	
R315	1-246-796-00	CARBON	12K	1/8W	
R316	1-246-847-00	CARBON	2K	1/8W	
R317	1-246-798-00	CARBON	18K	1/8W	
R318	1-246-863-00	CARBON	43K	1/8W	
R319	1-246-771-00	CARBON	100	1/8W	
R320	1-246-783-00	CARBON	1K	1/8W	
R321	1-246-789-00	CARBON	3.3K	1/8W	
R322	1-246-871-00	CARBON	200K	1/8W	
R323	1-246-869-00	CARBON	130K	1/8W	
R324	1-246-854-00	CARBON	7.5K	1/8W	
R325	1-246-839-00	CARBON	430	1/8W	
R326	1-246-783-00	CARBON	1K	1/8W	
R327	1-246-788-00	CARBON	2.7K	1/8W	
R328	1-246-785-00	CARBON	1.5K	1/8W	
R329	1-246-776-00	CARBON	270	1/8W	
R330	1-246-785-00	CARBON	1.5K	1/8W	
R331	1-246-854-00	CARBON	7.5K	1/8W	
R332	1-246-849-00	CARBON	3K	1/8W	
R334	1-246-798-00	CARBON	18K	1/8W	
R335	1-246-794-00	CARBON	8.2K	1/8W	
R336	1-246-801-00	CARBON	33K	1/8W	
R401	1-246-841-00	CARBON	620	1/8W	
R402	1-246-860-00	CARBON	24K	1/8W	
R403	1-246-783-00	CARBON	1K	1/8W	
R404	1-246-799-00	CARBON	22K	1/8W	
R405	1-246-804-00	CARBON	56K	1/8W	
R406	1-247-049-00	CARBON	470K	1/8W	
R407	1-246-803-00	CARBON	47K	1/8W	
R408	1-246-851-00	CARBON	4.3K	1/8W	
R409	1-246-847-00	CARBON	2K	1/8W	
R410	1-246-777-00	CARBON	330	1/8W	

Ref.No.	Part No.	Description			Remark
R411	1-246-769-00	CARBON	68	1/8W	
R412	1-246-791-00	CARBON	4.7K	1/8W	
R413	1-246-791-00	CARBON	4.7K	1/8W	
R414	1-246-859-00	CARBON	20K	1/8W	
R415	1-246-789-00	CARBON	3.3K	1/8W	
R416	1-246-788-00	CARBON	2.7K	1/8W	
R417	1-246-799-00	CARBON	22K	1/8W	
R418	1-246-857-00	CARBON	13K	1/8W	
R419	1-246-859-00	CARBON	20K	1/8W	
R420	1-246-783-00	CARBON	1K	1/8W	
R421	1-246-844-00	CARBON	1.1K	1/8W	
R422	1-246-848-00	CARBON	2.4K	1/8W	
R425	1-246-801-00	CARBON	33K	1/8W	
R426	1-246-801-00	CARBON	33K	1/8W	
R427	1-246-789-00	CARBON	3.3K	1/8W	
R428	1-246-783-00	CARBON	1K	1/8W	
R429	1-246-803-00	CARBON	47K	1/8W	
R430	1-246-799-00	CARBON	22K	1/8W	
R431	1-246-803-00	CARBON	47K	1/8W	
R432	1-246-803-00	CARBON	47K	1/8W	
R433	1-246-799-00	CARBON	22K	1/8W	
R434	1-246-803-00	CARBON	47K	1/8W	
R435	1-246-799-00	CARBON	22K	1/8W	
R436	1-247-048-00	CARBON	390K	1/8W	
R437	1-246-791-00	CARBON	4.7K	1/8W	
R438	1-246-785-00	CARBON	1.5K	1/8W	
R439	1-246-845-00	CARBON	1.3K	1/8W	
R440	1-246-785-00	CARBON	1.5K	1/8W	
R441	1-246-810-00	CARBON	180K	1/8W	
R442	1-246-803-00	CARBON	47K	1/8W	
R443	1-246-807-00	CARBON	100K	1/8W	
R444	1-246-802-00	CARBON	39K	1/8W	
R445	1-246-803-00	CARBON	47K	1/8W	
R446	1-246-795-00	CARBON	10K	1/8W	
R447	1-246-845-00	CARBON	1.3K	1/8W	
R448	1-246-787-00	CARBON	2.2K	1/8W	
R449	1-246-792-00	CARBON	5.6K	1/8W	
R450	1-246-864-00	CARBON	51K	1/8W	
R451	1-246-801-00	CARBON	33K	1/8W	
R452	1-246-803-00	CARBON	47K	1/8W	
R453	1-246-803-00	CARBON	47K	1/8W	
R454	1-246-795-00	CARBON	10K	1/8W	
R455	1-246-791-00	CARBON	4.7K	1/8W	
R456	1-246-804-00	CARBON	56K	1/8W	
R458	1-246-857-00	CARBON	13K	1/8W	
R459	1-246-801-00	CARBON	33K	1/8W	
R463	1-246-802-00	CARBON	39K	1/8W	
R467	1-246-787-00	CARBON	2.2K	1/8W	
R468	1-246-801-00	CARBON	33K	1/8W	
R469	1-246-807-00	CARBON	100K	1/8W	
R471	1-246-799-00	CARBON	22K	1/8W	
R472	1-246-857-00	CARBON	13K	1/8W	
R473	1-246-785-00	CARBON	1.5K	1/8W	

Ref.No.	Part No.	Description				Remark
R478	1-246-771-00	CARBON	100		1/8W	
R501	1-246-856-00	CARBON	11K		1/8W	
R502	1-246-802-00	CARBON	39K		1/8W	
R503	1-246-783-00	CARBON	1K		1/8W	
R504	1-246-791-00	CARBON	4.7K		1/8W	
R505	1-246-791-00	CARBON	4.7K		1/8W	
R506	1-246-797-00	CARBON	15K		1/8W	
R507	1-246-858-00	CARBON	16K		1/8W	
R508	1-246-805-00	CARBON	68K		1/8W	
R509	1-246-802-00	CARBON	39K		1/8W	
R510	1-246-807-00	CARBON	100K		1/8W	
R511	1-246-771-00	CARBON	100		1/8W	
R512	1-246-783-00	CARBON	1K		1/8W	
R513	1-246-834-00	CARBON	160		1/8W	
R514	1-246-836-00	CARBON	240		1/8W	
R515	1-246-783-00	CARBON	1K		1/8W	
R516	1-246-777-00	CARBON	330		1/8W	
R517	1-246-844-00	CARBON	1.1K		1/8W	
R518	1-246-837-00	CARBON	300		1/8W	
R519	1-246-837-00	CARBON	300		1/8W	
R520	1-246-870-00	CARBON	160K		1/8W	
R521	1-246-794-00	CARBON	8.2K		1/8W	
R522	1-246-794-00	CARBON	8.2K		1/8W	
R523	1-246-794-00	CARBON	8.2K		1/8W	
R524	1-246-801-00	CARBON	33K		1/8W	
R525	1-246-801-00	CARBON	33K		1/8W	
R601	1-246-771-00	CARBON	100		1/8W	
R602	1-246-459-00	CARBON	270	5%	1/4W	
R603	1-246-785-00	CARBON	1.5K		1/8W	
R604	1-246-787-00	CARBON	2.2K		1/8W	
R605	1-246-769-00	CARBON	68		1/8W	
R606	1-246-803-00	CARBON	47K		1/8W	
R607	1-246-795-00	CARBON	10K		1/8W	
R608	1-246-461-00	CARBON	330	5%	1/4W	
R609	1-246-769-00	CARBON	68		1/8W	
R610	1-246-782-00	CARBON	820		1/8W	
R611	1-246-854-00	CARBON	7.5K		1/8W	
R612	1-246-796-00	CARBON	12K		1/8W	
R613	1-246-842-00	CARBON	750		1/8W	
R615	1-246-789-00	CARBON	3.3K		1/8W	
R616	1-246-771-00	CARBON	100		1/8W	
R617	1-246-795-00	CARBON	10K		1/8W	
R618	1-246-791-00	CARBON	4.7K		1/8W	
R619	1-246-791-00	CARBON	4.7K		1/8W	
R620	1-246-799-00	CARBON	22K		1/8W	
R621	1-246-780-00	CARBON	560		1/8W	
R622	1-246-865-00	CARBON	62K		1/8W	
R623	1-246-780-00	CARBON	560		1/8W	
R624	1-246-802-00	CARBON	39K		1/8W	
R625	1-246-802-00	CARBON	39K		1/8W	
R626 ⚠	1-217-642-00	FUSIBLE	6.8	5%	1/4W	F
R627 ⚠	1-217-642-00	FUSIBLE	6.8	5%	1/4W	F
R628	1-246-797-00	CARBON	15K		1/8W	

Ref.No.	Part No.	Description				Remark
R629	1-246-801-00	CARBON	33K		1/8W	
R631	1-246-795-00	CARBON	10K		1/8W	
R632	1-246-795-00	CARBON	10K		1/8W	
R633	1-246-830-00	CARBON	75		1/8W	
R634	1-246-840-00	CARBON	510		1/8W	
R701	1-246-830-00	CARBON	75		1/8W	
R702	1-246-857-00	CARBON	13K		1/8W	
R703 ⚠	1-217-638-00	FUSIBLE	1.5	5%	1/4W	F
R901	1-246-799-00	CARBON	22K		1/8W	
R902	1-246-799-00	CARBON	22K		1/8W	
R903	1-247-046-00	CARBON	270K		1/8W	
R904	1-247-046-00	CARBON	270K		1/8W	
R905	1-246-803-00	CARBON	47K		1/8W	
R906	1-246-803-00	CARBON	47K		1/8W	
R907	1-246-799-00	CARBON	22K		1/8W	
R908	1-246-799-00	CARBON	22K		1/8W	
R909	1-246-837-00	CARBON	300		1/8W	
R910	1-246-837-00	CARBON	300		1/8W	
R911	1-246-799-00	CARBON	22K		1/8W	
R912	1-246-799-00	CARBON	22K		1/8W	
R913	1-246-783-00	CARBON	1K		1/8W	
R914	1-246-783-00	CARBON	1K		1/8W	
R915	1-246-795-00	CARBON	10K		1/8W	
R916	1-246-795-00	CARBON	10K		1/8W	
R917	1-246-791-00	CARBON	4.7K		1/8W	
R918	1-246-791-00	CARBON	4.7K		1/8W	
R919	1-246-789-00	CARBON	3.3K		1/8W	
R920	1-246-789-00	CARBON	3.3K		1/8W	
R921	1-246-795-00	CARBON	10K		1/8W	
R922	1-246-795-00	CARBON	10K		1/8W	
R923	1-246-843-00	CARBON	910		1/8W	
R924	1-246-843-00	CARBON	910		1/8W	
R925	1-246-771-00	CARBON	100		1/8W	

VARIABLE RESISTOR

RV001	1-228-745-00	RES, ADJ, CARBON 1K
RV008	1-228-746-00	RES, ADJ, CARBON 2.2K
RV010	1-228-747-00	RES, ADJ, CARBON 4.7K
RV011	1-228-747-00	RES, ADJ, CARBON 4.7K
RV012	1-228-747-00	RES, ADJ, CARBON 4.7K
RV013	1-228-748-00	RES, ADJ, CARBON 10K
RV014	1-228-750-00	RES, ADJ, CARBON 47K
RV015	1-228-746-00	RES, ADJ, CARBON 2.2K
RV016	1-228-747-00	RES, ADJ, CARBON 4.7K
RV017	1-228-744-00	RES, ADJ, CARBON 470
RV019	1-228-750-00	RES, ADJ, CARBON 47K
RV020	1-228-750-00	RES, ADJ, CARBON 47K
RV021	1-228-746-00	RES, ADJ, CARBON 2.2K
RV022	1-228-747-00	RES, ADJ, CARBON 4.7K
RV025	1-228-748-00	RES, ADJ, CARBON 10K
RV026	1-228-750-00	RES, ADJ, CARBON 47K
RV027	1-228-744-00	RES, ADJ, CARBON 470
RV028	1-228-744-00	RES, ADJ, CARBON 470

NOTE:

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No.	Part No.	Description	Remark
RV029	1-228-746-00	RES, ADJ, CARBON 2.2K	
RV030	1-228-747-00	RES, ADJ, CARBON 4.7K	
RV031	1-228-748-00	RES, ADJ, CARBON 10K	
RV032	1-228-749-00	RES, ADJ, CARBON 22K	
RV033	1-228-748-00	RES, ADJ, CARBON 10K	
RV034	1-228-744-00	RES, ADJ, CARBON 470	
RV100	1-228-930-00	RES, VAR, CARBON 2.2K	

SWITCH

Ref.No.	Part No.	Description	Remark
SW001	1-552-821-00	SWITCH, SLIDE	

TRANSFORMER

Ref.No.	Part No.	Description	Remark
T001	1-235-216-00	FILTER, BAND PASS	
T002	1-235-220-00	B.P.F	
T003	1-426-140-00	COIL (EQT)	
T004	1-426-141-00	COIL (EQT)	
T006	1-231-412-00	FILTER BLOCK	
T007	1-426-089-00	COIL (EQT)	

CRYSTAL

Ref.No.	Part No.	Description	Remark
X001	1-527-396-00	CRYSTAL, OSC	

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♠:A-6711-435-A VL-5 BOARD, COMPLETE
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CAPACITOR

Ref.No.	Part No.	Description	Remark
C001	1-123-306-00	ELECT 47MF 20% 10V	
C002	1-123-616-00	ELECT 4.7MF 20% 25V	
C003	1-123-617-00	ELECT 10MF 20% 16V	
C004	1-130-022-00	FILM 0.0022MF 5% 50V	
C005	1-161-013-00	CERAMIC 0.01MF 10% 25V	
C006	1-123-617-00	ELECT 10MF 20% 16V	
C007	1-130-532-00	MYLAR 0.22MF 10% 50V	
C008	1-123-617-00	ELECT 10MF 20% 16V	
C009	1-123-617-00	ELECT 10MF 20% 16V	
C010	1-102-074-00	CERAMIC 0.001MF 10% 50V	
C011	1-131-404-00	ELECT(SOLID) 0.22MF 10% 25V	
C012	1-102-126-00	CERAMIC 0.0056MF 10% 50V	
C013	1-123-616-00	ELECT 4.7MF 20% 25V	
C014	1-161-013-00	CERAMIC 0.01MF 10% 25V	
C015	1-123-306-00	ELECT 47MF 20% 10V	
C016	1-123-645-00	ELECT 33MF 20% 10V	
C017	1-123-617-00	ELECT 10MF 20% 16V	
C018	1-123-617-00	ELECT 10MF 20% 16V	
C019	1-123-617-00	ELECT 10MF 20% 16V	
C020	1-123-617-00	ELECT 10MF 20% 16V	
C021	1-102-118-00	CERAMIC 0.0012MF 10% 50V	
C022	1-123-617-00	ELECT 10MF 20% 16V	
C023	1-123-617-00	ELECT 10MF 20% 16V	
C024	1-131-404-00	ELECT(SOLID) 0.22MF 10% 25V	
C025	1-130-029-00	FILM 0.0082MF 5% 50V	
C026	1-130-025-00	FILM 0.0039MF 5% 50V	
C027	1-123-622-00	ELECT 22MF 20% 16V	
C028	1-123-306-00	ELECT 47MF 20% 10V	
C029	1-161-013-00	CERAMIC 0.01MF 10% 25V	
C030	1-131-342-00	ELECT(SOLID) 0.15MF 10% 25V	
C031	1-161-013-00	CERAMIC 0.01MF 10% 25V	
C032	1-123-307-00	ELECT 100MF 20% 10V	
C033	1-130-028-00	FILM 0.0068MF 5% 50V	
C034	1-130-025-00	FILM 0.0039MF 5% 50V	
C035	1-130-481-00	MYLAR 0.0068MF 5% 50V	
C036	1-131-342-00	ELECT(SOLID) 0.15MF 10% 25V	
C037	1-123-306-00	ELECT 47MF 20% 10V	
C038	1-130-524-00	MYLAR 0.047MF 10% 50V	
C040	1-123-306-00	ELECT 47MF 20% 10V	
C041	1-123-613-00	ELECT 3.3MF 20% 50V	
C042	1-161-034-00	CERAMIC 0.022MF 20% 25V	
C043	1-102-121-00	CERAMIC 0.0022MF 10% 50V	
C044	1-123-617-00	ELECT 10MF 20% 16V	
C045	1-131-345-00	ELECT(SOLID) 0.47MF 10% 25V	
C046	1-131-345-00	ELECT(SOLID) 0.47MF 10% 25V	
C047	1-123-617-00	ELECT 10MF 20% 16V	
C048	1-130-524-00	MYLAR 0.047MF 10% 50V	
C049	1-131-407-00	ELECT(SOLID) 0.68MF 10% 25V	
C050	1-102-074-00	CERAMIC 0.001MF 10% 50V	
C051	1-123-617-00	ELECT 10MF 20% 16V	

CONNECTOR

Ref.No.	Part No.	Description	Remark
CN001	♠:1-560-472-00	PIN, CONNECTOR 12P	
CN002	♠:1-560-472-00	PIN, CONNECTOR 12P	
CN003	♠:1-560-470-00	PIN, CONNECTOR 8P	
CN004	♠:1-560-466-00	PIN, CONNECTOR 3P	

DIODE

Ref.No.	Part No.	Description	Remark
D003	8-719-911-19	DIODE 1SS119	
D004	8-719-911-19	DIODE 1SS119	
D005	8-719-911-19	DIODE 1SS119	
D006	8-719-911-19	DIODE 1SS119	
D007	8-719-911-19	DIODE 1SS119	
D009	8-719-911-19	DIODE 1SS119	
D010	8-719-911-19	DIODE 1SS119	
D013	8-719-911-19	DIODE 1SS119	
D014	8-719-911-19	DIODE 1SS119	
D015	8-719-911-19	DIODE 1SS119	

IC

Ref.No.	Part No.	Description	Remark
IC001	8-759-132-40	IC UPC324C	
IC002	8-759-132-40	IC UPC324C	
IC003	8-759-132-40	IC UPC324C	
IC004	8-759-240-30	IC TC4030BP	
IC005	8-741-104-10	IC BX-1041	
IC006	8-759-240-66	IC TC4066BP	
IC007	8-759-240-13	IC TC4013BP	
IC008	8-759-240-81	IC TC4081BP	
IC009	8-759-045-38	IC MC14538BCP	

Ref.No.	Part No.	Description	Remark
IC010	8-759-240-11	IC TC4011BP	
IC011	8-759-240-11	IC TC4011BP	
IC012	8-759-240-81	IC TC4081BP	
IC013	8-759-240-11	IC TC4011BP	
IC014	8-759-240-69	IC TC4069UBP	

TRANSISTOR

Ref.No.	Part No.	Description	Remark
Q001	8-729-993-72	TRANSISTOR 2SA937	
Q002	8-729-178-54	TRANSISTOR 2SC2785	
Q003	8-729-178-54	TRANSISTOR 2SC2785	
Q004	8-729-178-54	TRANSISTOR 2SC2785	
Q005	8-729-117-54	TRANSISTOR 2SA1175	
Q006	8-729-178-54	TRANSISTOR 2SC2785	
Q007	8-729-993-72	TRANSISTOR 2SA937	
Q008	8-729-178-54	TRANSISTOR 2SC2785	
Q009	8-729-178-54	TRANSISTOR 2SC2785	
Q010	8-729-117-54	TRANSISTOR 2SA1175	
Q012	8-729-178-54	TRANSISTOR 2SC2785	
Q013	8-729-178-54	TRANSISTOR 2SC2785	
Q014	8-729-117-54	TRANSISTOR 2SA1175	
Q015	8-729-117-54	TRANSISTOR 2SA1175	
Q016	8-729-178-54	TRANSISTOR 2SC2785	
Q017	8-729-178-54	TRANSISTOR 2SC2785	
Q018	8-729-902-11	TRANSISTOR 2SC2021	
Q019	8-729-178-54	TRANSISTOR 2SC2785	
Q020	8-729-178-54	TRANSISTOR 2SC2785	
Q021	8-729-178-54	TRANSISTOR 2SC2785	
Q022	8-729-117-54	TRANSISTOR 2SA1175	
Q023	8-729-117-54	TRANSISTOR 2SA1175	
Q024	8-729-178-54	TRANSISTOR 2SC2785	
Q025	8-729-178-54	TRANSISTOR 2SC2785	
Q026	8-729-117-54	TRANSISTOR 2SA1175	
Q027	8-729-117-54	TRANSISTOR 2SA1175	
Q028	8-729-117-54	TRANSISTOR 2SA1175	
Q029	8-729-117-54	TRANSISTOR 2SA1175	
Q030	8-729-902-11	TRANSISTOR 2SC2021	
Q031	8-729-117-54	TRANSISTOR 2SA1175	
Q032	8-729-902-11	TRANSISTOR 2SC2021	
Q033	8-729-117-54	TRANSISTOR 2SA1175	
Q034	8-729-117-54	TRANSISTOR 2SA1175	
Q035	8-729-117-54	TRANSISTOR 2SA1175	
Q036	8-729-117-54	TRANSISTOR 2SA1175	
Q037	8-729-178-54	TRANSISTOR 2SC2785	

RESISTOR

Ref.No.	Part No.	Description				Remark
R001	1-246-803-00	CARBON	47K		1/8W	
R002	1-246-803-00	CARBON	47K		1/8W	
R003	1-215-443-00	METAL	8.2K	1%	1/6W	
R004	1-215-445-00	METAL	10K	1%	1/6W	
R005	1-246-791-00	CARBON	4.7K		1/8W	
R006	1-247-053-00	CARBON	1M		1/8W	
R011	1-246-791-00	CARBON	4.7K		1/8W	
R012	1-247-053-00	CARBON	1M		1/8W	
R013	1-246-792-00	CARBON	5.6K		1/8W	
R014	1-246-799-00	CARBON	22K		1/8W	
R015	1-246-803-00	CARBON	47K		1/8W	
R016	1-246-807-00	CARBON	100K		1/8W	
R017	1-246-852-00	CARBON	5.1K		1/8W	
R020	1-246-846-00	CARBON	1.6K		1/8W	
R021	1-246-851-00	CARBON	4.3K		1/8W	
R022	1-246-807-00	CARBON	100K		1/8W	
R023	1-246-864-00	CARBON	51K		1/8W	
R024	1-246-807-00	CARBON	100K		1/8W	
R025	1-246-807-00	CARBON	100K		1/8W	
R026	1-246-795-00	CARBON	10K		1/8W	
R032	1-246-781-00	CARBON	680		1/8W	
R033	1-246-807-00	CARBON	100K		1/8W	
R037	1-246-807-00	CARBON	100K		1/8W	
R038	1-215-429-00	METAL	2.2K	1%	1/6W	
R039	1-215-445-00	METAL	10K	1%	1/6W	
R040	1-215-457-00	METAL	33K	1%	1/6W	
R041	1-246-803-00	CARBON	47K		1/8W	
R043	1-247-053-00	CARBON	1M		1/8W	
R044	1-247-053-00	CARBON	1M		1/8W	
R045	1-246-765-00	CARBON	33		1/8W	
R047	1-246-807-00	CARBON	100K		1/8W	
R048	1-246-844-00	CARBON	1.1K		1/8W	
R049	1-246-846-00	CARBON	1.6K		1/8W	
R050	1-246-846-00	CARBON	1.6K		1/8W	
R052	1-246-791-00	CARBON	4.7K		1/8W	
R053	1-246-801-00	CARBON	33K		1/8W	
R055	1-247-053-00	CARBON	1M		1/8W	
R058	1-246-792-00	CARBON	5.6K		1/8W	
R061	1-246-848-00	CARBON	2.4K		1/8W	
R062	1-246-803-00	CARBON	47K		1/8W	
R063	1-246-783-00	CARBON	1K		1/8W	
R064	1-246-783-00	CARBON	1K		1/8W	
R065	1-246-783-00	CARBON	1K		1/8W	
R066	1-246-804-00	CARBON	56K		1/8W	
R067	1-246-804-00	CARBON	56K		1/8W	
R068	1-246-807-00	CARBON	100K		1/8W	
R069	1-246-803-00	CARBON	47K		1/8W	
R070	1-246-850-00	CARBON	3.6K		1/8W	
R071	1-246-805-00	CARBON	68K		1/8W	
R072	1-246-804-00	CARBON	56K		1/8W	
R073	1-246-804-00	CARBON	56K		1/8W	
R074	1-246-803-00	CARBON	47K		1/8W	
R075	1-246-795-00	CARBON	10K		1/8W	
R076	1-246-795-00	CARBON	10K		1/8W	
R077	1-246-807-00	CARBON	100K		1/8W	
R078	1-246-807-00	CARBON	100K		1/8W	
R080	1-246-803-00	CARBON	47K		1/8W	
R084	1-246-791-00	CARBON	4.7K		1/8W	
R085	1-246-807-00	CARBON	100K		1/8W	
R086	1-214-780-00	METAL	130K	1%	1/4W	
R087	1-214-786-00	METAL	240K	1%	1/4W	

Ref.No.	Part No.	Description	Remark
R088	1-246-775-00	CARBON 220 1/8W	
R089	1-246-805-00	CARBON 68K 1/8W	
R090	1-246-803-00	CARBON 47K 1/8W	
R091	1-246-803-00	CARBON 47K 1/8W	
R092	1-247-053-00	CARBON 1M 1/8W	
R093	1-246-777-00	CARBON 330 1/8W	
R094	1-246-803-00	CARBON 47K 1/8W	
R095	1-246-803-00	CARBON 47K 1/8W	
R096	1-246-807-00	CARBON 100K 1/8W	
R097	1-246-807-00	CARBON 100K 1/8W	
R100	1-246-771-00	CARBON 100 1/8W	
R101	1-246-795-00	CARBON 10K 1/8W	
R102	1-246-783-00	CARBON 1K 1/8W	
R103	1-246-795-00	CARBON 10K 1/8W	
R104	1-246-795-00	CARBON 10K 1/8W	
R105	1-246-803-00	CARBON 47K 1/8W	
R106	1-215-469-00	METAL 100K 1% 1/6W	
R107	1-215-467-00	METAL 82K 1% 1/6W	
R108	1-215-439-00	METAL 5.6K 1% 1/6W	
R109	1-246-783-00	CARBON 1K 1/8W	
R110	1-246-807-00	CARBON 100K 1/8W	
R111	1-246-799-00	CARBON 22K 1/8W	
R112	1-246-807-00	CARBON 100K 1/8W	
R113	1-215-452-00	METAL 20K 1% 1/6W	
R114	1-215-456-00	METAL 30K 1% 1/6W	
R115	1-246-790-00	CARBON 3.9K 1/8W	
R116	1-246-807-00	CARBON 100K 1/8W	
R117	1-215-431-00	METAL 2.7K 1% 1/6W	
R118	1-215-421-00	METAL 1K 1% 1/6W	
R121	1-246-803-00	CARBON 47K 1/8W	
R122	1-246-803-00	CARBON 47K 1/8W	
R123	1-246-802-00	CARBON 39K 1/8W	
R124	1-246-795-00	CARBON 10K 1/8W	
R125	1-246-857-00	CARBON 13K 1/8W	
R126	1-246-801-00	CARBON 33K 1/8W	
R127	1-246-803-00	CARBON 47K 1/8W	
R128	1-246-783-00	CARBON 1K 1/8W	
R129	1-246-861-00	CARBON 30K 1/8W	
R130	1-246-857-00	CARBON 13K 1/8W	
R131	1-215-445-00	METAL 10K 1% 1/6W	
R132	1-246-803-00	CARBON 47K 1/8W	
R133	1-246-851-00	CARBON 4.3K 1/8W	
R134	1-246-795-00	CARBON 10K 1/8W	
R135	1-246-803-00	CARBON 47K 1/8W	
R136	1-246-803-00	CARBON 47K 1/8W	
R137	1-246-778-00	CARBON 390 1/8W	
R138	1-246-807-00	CARBON 100K 1/8W	
R139	1-215-434-00	METAL 3.6K 1% 1/6W	
R140	1-246-807-00	CARBON 100K 1/8W	
R141	1-246-807-00	CARBON 100K 1/8W	
R142	1-215-423-00	METAL 1.2K 1% 1/6W	
R146	1-246-807-00	CARBON 100K 1/8W	
R147	1-246-807-00	CARBON 100K 1/8W	
R148	1-215-447-00	METAL 12K 1% 1/6W	
R149	1-215-442-00	METAL 7.5K 1% 1/6W	
R154	1-246-783-00	CARBON 1K 1/8W	
R156	1-246-869-00	CARBON 130K 1/8W	
R157	1-246-807-00	CARBON 100K 1/8W	
R158	1-246-783-00	CARBON 1K 1/8W	
R159	1-246-807-00	CARBON 100K 1/8W	
R160	1-246-807-00	CARBON 100K 1/8W	
R161	1-246-850-00	CARBON 3.6K 1/8W	
R162	1-215-441-00	METAL 6.8K 1% 1/6W	
R164	1-246-791-00	CARBON 4.7K 1/8W	
R171	1-246-807-00	CARBON 100K 1/8W	
R180	1-246-858-00	CARBON 16K 1/8W	

VARIABLE RESISTOR

Ref.No.	Part No.	Description	Remark
RV001	1-224-252-XX	RES, ADJ, METAL GLAZE 10K	
RV002	1-226-773-00	RES, ADJ, METAL GLAZE 22K	
RV003	1-224-251-XX	RES, ADJ, METAL GLAZE 4.7K	
RV004	1-224-253-XX	RES, ADJ, METAL GLAZE 22K	
RV005	1-224-253-XX	RES, ADJ, METAL GLAZE 22K	
RV006	1-224-256-XX	RES, ADJ, METAL GLAZE 220K	
RV007	1-224-256-XX	RES, ADJ, METAL GLAZE 220K	
RV008	1-224-256-XX	RES, ADJ, METAL GLAZE 220K	
RV009	1-224-256-XX	RES, ADJ, METAL GLAZE 220K	
RV010	1-226-703-00	RES, ADJ, METAL GLAZE 10K	
RV011	1-226-775-00	RES, ADJ, METAL GLAZE 100K	
RV012	1-224-256-XX	RES, ADJ, METAL GLAZE 220K	
RV013	1-224-256-XX	RES, ADJ, METAL GLAZE 220K	
RV014	1-228-270-00	RES, VAR, CARBON 10K	
RV015	1-226-775-00	RES, ADJ, METAL GLAZE 100K	
RV016	1-224-250-XX	RES, ADJ, METAL GLAZE 2.2K	
RV017	1-224-255-XX	RES, ADJ, METAL GLAZE 100K	
RV018	1-226-773-00	RES, ADJ, METAL GLAZE 22K	

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Ref.No.	Part No.	Description	Remark
	♠:A-6713-151-B	AF-1 BOARD, COMPLETE ********************	
	♠:X-3679-819-0	LID ASSY, REAR, SHIELD CASE (C)	
	♠:X-3679-820-0	LID ASSY, REAR, SHIELD CASE (B)	
	♠:X-3679-821-0	LID ASSY, REAR, SHIELD CASE (A)	
	♠:3-679-932-00	LID, SHIELD CASE (B), AF	
	♠:3-679-933-00	CASE (B) (MAIN), SHIELD, AF	
	♠:3-679-939-00	LID, SHIELD CASE (A), AF	
	♠:3-679-940-00	SHIELD CASE (A) (MAIN), AF	
	♠:3-679-941-00	SHIELD CASE (C) (MAIN), AF	

FILTER

Ref.No.	Part No.	Description	Remark
BPF801	1-235-212-00	FILTER, BAND PASS	
BPF802	1-235-213-00	FILTER, BAND PASS	
BPF811	1-235-212-00	FILTER, BAND PASS	
BPF812	1-235-210-00	FILTER, BAND PASS	
BPF901	1-235-214-00	FILTER, BAND PASS	

Ref.No.	Part No.	Description			Remark
BPF902	1-235-215-00	FILTER, BAND PASS			
BPF911	1-235-214-00	FILTER, BAND PASS			
BPF912	1-235-211-00	FILTER, BAND PASS			

CAPACITOR

Ref.No.	Part No.	Description			Remark
C601	1-123-356-00	ELECT	10MF	20%	16V
C602	1-123-330-00	ELECT	22MF	20%	16V
C603	1-123-330-00	ELECT	22MF	20%	16V
C604	1-123-330-00	ELECT	22MF	20%	16V
C605	1-123-356-00	ELECT	10MF	20%	16V
C606	1-123-356-00	ELECT	10MF	20%	16V
C609	1-102-973-00	CERAMIC	100PF	5%	50V
C611	1-131-498-00	TANTALUM	1MF	10%	25V
C612	1-131-370-00	TANTALUM	6.8MF	10%	16V
C613	1-131-371-00	TANTALUM	10MF	10%	16V
C614	1-123-296-00	ELECT	220MF	20%	6.3V
C615	1-161-013-00	CERAMIC	0.01MF	10%	25V
C616	1-123-330-00	ELECT	22MF	20%	16V
C617	1-130-493-51	MYLAR	0.068MF	5%	50V
C618	1-130-493-51	MYLAR	0.068MF	5%	50V
C620	1-123-332-00	ELECT	47MF	20%	16V
C621	1-130-477-00	MYLAR	0.0033MF	5%	50V
C622	1-123-332-00	ELECT	47MF	20%	16V
C623	1-130-485-00	MYLAR	0.015MF	5%	50V
C624	1-130-485-00	MYLAR	0.015MF	5%	50V
C626	1-130-471-00	MYLAR	0.001MF	5%	50V
C627	1-102-824-00	CERAMIC	470PF	5%	50V
C631	1-130-483-00	MYLAR	0.01MF	5%	50V
C632	1-123-332-00	ELECT	47MF	20%	16V
C633	1-123-332-00	ELECT	47MF	20%	16V
C645	1-102-074-00	CERAMIC	0.001MF	10%	50V
C646	1-161-021-00	CERAMIC	0.047MF	10%	25V
C648	1-102-820-00	CERAMIC	330PF	5%	50V
C650	1-161-013-00	CERAMIC	0.01MF	10%	25V
C651	1-123-330-00	ELECT	22MF	20%	16V
C652	1-102-074-00	CERAMIC	0.001MF	10%	50V
C654	1-123-330-00	ELECT	22MF	20%	16V
C656	1-161-022-00	CERAMIC	0.056MF	10%	25V
C672	1-123-332-00	ELECT	47MF	20%	16V
C673	1-161-021-00	CERAMIC	0.047MF	10%	25V
C674	1-123-356-00	ELECT	10MF	20%	16V
C676	1-123-332-00	ELECT	47MF	20%	16V
C677	1-123-295-00	ELECT	100MF	20%	6.3V
C681	1-123-305-00	ELECT	33MF	20%	10V
C682	1-123-306-00	ELECT	47MF	20%	10V
C683	1-123-306-00	ELECT	47MF	20%	10V
C684	1-123-330-00	ELECT	22MF	20%	16V
C685	1-130-489-00	MYLAR	0.033MF	5%	50V
C701	1-123-356-00	ELECT	10MF	20%	16V
C702	1-123-330-00	ELECT	22MF	20%	16V
C703	1-123-330-00	ELECT	22MF	20%	16V
C704	1-123-330-00	ELECT	22MF	20%	16V
C705	1-123-356-00	ELECT	10MF	20%	16V
C706	1-123-356-00	ELECT	10MF	20%	16V
C709	1-102-973-00	CERAMIC	100PF	5%	50V
C711	1-131-498-00	TANTALUM	1MF	10%	25V
C712	1-131-370-00	TANTALUM	6.8MF	10%	16V
C713	1-131-371-00	TANTALUM	10MF	10%	16V
C714	1-123-296-00	ELECT	220MF	20%	6.3V
C715	1-161-013-00	CERAMIC	0.01MF	10%	25V
C716	1-123-330-00	ELECT	22MF	20%	16V
C717	1-130-493-00	MYLAR	0.068MF	5%	50V
C718	1-130-493-00	MYLAR	0.068MF	5%	50V
C720	1-123-332-00	ELECT	47MF	20%	16V
C721	1-130-477-00	MYLAR	0.0033MF	5%	50V
C722	1-123-332-00	ELECT	47MF	20%	16V
C723	1-130-485-00	MYLAR	0.015MF	5%	50V
C724	1-130-485-00	MYLAR	0.015MF	5%	50V
C725	1-123-359-00	ELECT	47MF	20%	50V
C726	1-130-471-00	MYLAR	0.001MF	5%	50V
C727	1-102-824-00	CERAMIC	470PF	5%	50V
C731	1-130-483-00	MYLAR	0.01MF	5%	50V
C732	1-123-332-00	ELECT	47MF	20%	16V
C733	1-123-332-00	ELECT	47MF	20%	16V
C745	1-102-074-00	CERAMIC	0.001MF	10%	50V
C746	1-161-021-00	CERAMIC	0.047MF	10%	25V
C748	1-102-981-00	CERAMIC	300PF	5%	50V
C750	1-161-013-00	CERAMIC	0.01MF	10%	25V
C751	1-123-330-00	ELECT	22MF	20%	16V
C752	1-102-074-00	CERAMIC	0.001MF	10%	50V
C754	1-123-330-00	ELECT	22MF	20%	16V
C756	1-161-022-00	CERAMIC	0.056MF	10%	25V
C772	1-123-332-00	ELECT	47MF	20%	16V
C773	1-161-021-00	CERAMIC	0.047MF	10%	25V
C774	1-123-356-00	ELECT	10MF	20%	16V
C776	1-123-332-00	ELECT	47MF	20%	16V
C777	1-123-295-00	ELECT	100MF	20%	6.3V
C781	1-123-305-00	ELECT	33MF	20%	10V
C782	1-123-306-00	ELECT	47MF	20%	10V
C783	1-123-306-00	ELECT	47MF	20%	10V
C784	1-123-330-00	ELECT	22MF	20%	16V
C785	1-130-489-00	MYLAR	0.033MF	5%	50V
C800	1-161-022-00	CERAMIC	0.056MF	10%	25V
C801	1-123-332-00	ELECT	47MF	20%	16V
C813	1-123-356-00	ELECT	10MF	20%	16V
C814	1-161-013-00	CERAMIC	0.01MF	10%	25V
C818	1-161-379-00	CERAMIC	0.01MF	20%	25V
C821	1-123-332-00	ELECT	47MF	20%	16V
C822	1-161-013-00	CERAMIC	0.01MF	10%	25V
C824	1-161-013-00	CERAMIC	0.01MF	10%	25V
C828	1-161-379-00	CERAMIC	0.01MF	20%	25V
C829	1-161-013-00	CERAMIC	0.01MF	10%	25V
C831	1-102-978-00	CERAMIC	220PF	5%	50V
C832	1-123-356-00	ELECT	10MF	20%	16V
C840	1-161-013-00	CERAMIC	0.01MF	10%	25V
C841	1-101-361-00	CERAMIC	150PF	5%	50V

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Ref.No.	Part No.	Description	Remark
C842	1-161-013-00	CERAMIC 0.01MF 10% 25V	
C855	1-102-824-00	CERAMIC 470PF 5% 50V	
C860	1-123-356-00	ELECT 10MF 20% 16V	
C861	1-130-495-00	MYLAR 0.1MF 5% 50V	
C862	1-130-475-00	FILM 0.0022MF 20% 16V	
C863	1-123-382-00	ELECT 3.3MF 20% 50V	
C865	1-102-824-00	CERAMIC 470PF 5% 50V	
C881	1-123-307-00	ELECT 100MF 20% 10V	
C882	1-123-307-00	ELECT 100MF 20% 10V	
C883	1-123-306-00	ELECT 47MF 20% 10V	
C884	1-161-013-00	CERAMIC 0.01MF 10% 25V	
C885	1-101-006-00	CERAMIC 0.047MF 5% 50V	
C886	1-101-006-00	CERAMIC 0.047MF 5% 50V	
C887	1-101-006-00	CERAMIC 0.047MF 5% 50V	
C901	1-123-332-00	ELECT 47MF 20% 16V	
C913	1-123-356-00	ELECT 10MF 20% 16V	
C914	1-161-013-00	CERAMIC 0.01MF 10% 25V	
C918	1-161-013-00	CERAMIC 0.01MF 10% 25V	
C923	1-161-013-00	CERAMIC 0.01MF 10% 25V	
C924	1-161-013-00	CERAMIC 0.01MF 10% 25V	
C930	1-123-332-00	ELECT 47MF 20% 16V	
C931	1-102-978-00	CERAMIC 220PF 5% 50V	
C932	1-123-356-00	ELECT 10MF 20% 16V	
C940	1-161-013-00	CERAMIC 0.01MF 10% 25V	
C941	1-101-361-00	CERAMIC 150PF 5% 50V	
C942	1-161-013-00	CERAMIC 0.01MF 10% 25V	
C948	1-123-296-00	ELECT 220MF 20% 6.3V	
C949	1-123-321-00	ELECT 220MF 20% 16V	
C950	1-123-310-00	ELECT 470MF 20% 10V	
C951	1-123-295-00	ELECT 100MF 20% 6.3V	
C952	1-123-332-00	ELECT 47MF 20% 16V	
C960	1-123-356-00	ELECT 10MF 20% 16V	
C961	1-102-824-00	CERAMIC 470PF 5% 50V	
C964	1-123-356-00	ELECT 10MF 20% 16V	
C968	1-123-356-00	ELECT 10MF 20% 16V	
C969	1-123-356-00	ELECT 10MF 20% 16V	
C970	1-102-824-00	CERAMIC 470PF 5% 50V	
C974	1-123-356-00	ELECT 10MF 20% 16V	

CONNECTOR

Ref.No.	Part No.	Description	Remark
CN601●:	1-560-456-00	PIN, CONNECTOR 2P	
CN602●:	1-560-471-00	PIN, CONNECTOR 10P	
CN603●:	1-560-466-00	PIN, CONNECTOR 3P	
CN604●:	1-560-471-00	PIN, CONNECTOR 10P	
CN605●:	1-560-456-00	PIN, CONNECTOR 2P	
CN606●:	1-560-469-00	PIN, CONNECTOR 6P	
CN607●:	1-560-467-00	PIN, CONNECTOR 4P	
CN608●:	1-560-466-00	PIN, CONNECTOR 3P	

DIODE

Ref.No.	Part No.	Description	Remark
D601	8-719-911-19	DIODE 1SS119	
D602	8-719-911-19	DIODE 1SS119	
D603	8-719-911-19	DIODE 1SS119	
D604	8-719-100-27	DIODE RD4.7EB2	
D605	8-719-911-19	DIODE 1SS119	
D610	8-719-100-50	DIODE RD9.1EB1	
D611	8-719-911-19	DIODE 1SS119	
D612	8-719-911-19	DIODE 1SS119	
D613	8-719-911-19	DIODE 1SS119	
D701	8-719-911-19	DIODE 1SS119	
D702	8-719-911-19	DIODE 1SS119	
D703	8-719-911-19	DIODE 1SS119	
D704	8-719-100-27	DIODE RD4.7EB2	
D705	8-719-911-19	DIODE 1SS119	
D710	8-719-100-50	DIODE RD9.1EB1	
D711	8-719-911-19	DIODE 1SS119	
D712	8-719-911-19	DIODE 1SS119	
D713	8-719-911-19	DIODE 1SS119	
D802	8-719-911-19	DIODE 1SS119	
D803	8-719-911-19	DIODE 1SS119	
D804	8-719-911-19	DIODE 1SS119	
D805	8-719-911-19	DIODE 1SS119	
D901	8-719-100-35	DIODE RD5.6EB2	
D902	8-719-100-27	DIODE RD4.7EB2	
D903	8-719-100-41	DIODE RD6.8EB2	
D905	8-719-911-19	DIODE 1SS119	

IC

Ref.No.	Part No.	Description	Remark
IC601	8-752-008-30	IC CX20083	
IC602	8-750-000-74	IC CX20061	
IC603	8-759-208-94	IC CX-894	
IC604	8-759-145-58	IC UPC4558C	
IC606	8-759-201-29	IC TC9122P	
IC607	8-759-608-64	IC CX-864	
IC608	8-759-240-66	IC TC4066BP	
IC609	8-759-700-00	IC NJM4562D-DR	
IC610	8-759-240-30	IC TC4030BP	
IC611	8-759-240-11	IC TC4011BP	
IC612	8-759-220-76	IC TC40H076P	
IC613	8-759-240-69	IC TC4069UBP	
IC614	8-759-240-24	IC TC4024BP	
IC701	8-752-008-30	IC CX20083	
IC702	8-750-000-74	IC CX20061	
IC703	8-759-208-94	IC CX-894	
IC704	8-759-145-58	IC UPC4558C	
IC706	8-759-201-29	IC TC9122P	
IC707	8-759-608-64	IC CX-864	
IC709	8-759-700-00	IC NJM4562D-DR	
IC801	8-759-157-70	IC UPC577H	
IC802	8-759-157-70	IC UPC577H	
IC803	8-759-110-37	IC UPC1037H	
IC804	8-759-110-37	IC UPC1037H	
IC901	8-759-157-70	IC UPC577H	
IC902	8-759-157-70	IC UPC577H	
IC903	8-759-110-37	IC UPC1037H	
IC904	8-759-110-37	IC UPC1037H	
IC905	8-750-000-74	IC CX20061	

COIL

Ref.No.	Part No.	Description	Remark
L603	1-408-619-00	MICRO INDUCTOR 220UH	
L604	1-408-607-00	MICRO INDUCTOR 22UH	
L611	1-408-623-00	MICRO INDUCTOR 470UH	
L703	1-408-619-00	MICRO INDUCTOR 220UH	

Ref.No.	Part No.	Description	Remark
L704	1-408-607-00	MICRO INDUCTOR 22UH	
L711	1-408-623-00	MICRO INDUCTOR 470UH	
L803	1-408-603-00	MICRO INDUCTOR 10UH	
L804	1-408-619-00	MICRO INDUCTOR 220UH	
L805	1-408-615-00	MICRO INDUCTOR 100UH	
L806	1-408-615-00	MICRO INDUCTOR 100UH	
L814	1-408-619-00	MICRO INDUCTOR 220UH	
L903	1-408-601-00	MICRO INDUCTOR 6.8UH	
L904	1-408-619-00	MICRO INDUCTOR 220UH	
L905	1-408-615-00	MICRO INDUCTOR 100UH	
L906	1-408-615-00	MICRO INDUCTOR 100UH	
L907	1-408-619-00	MICRO INDUCTOR 220UH	
L908	1-408-619-00	MICRO INDUCTOR 220UH	
L914	1-408-619-00	MICRO INDUCTOR 220UH	

FILTER

LPF601	1-235-218-00	FILTER, LOW PASS	
LPF701	1-235-218-00	FILTER, LOW PASS	
LPF901	1-235-208-00	FILTER, LOW PASS	

VOLUME BLOCK

PS601⚠	1-532-679-11	PROTECTOR, CIRCUIT	
PS602⚠	1-532-679-11	PROTECTOR, CIRCUIT	

TRANSISTOR

Q601	8-723-304-00	TRANSISTOR 2SK43-04	
Q603	8-723-304-00	TRANSISTOR 2SK43-04	
Q606	8-723-304-00	TRANSISTOR 2SK43-04	
Q610	8-729-117-54	TRANSISTOR 2SA1175	
Q611	8-729-178-55	TRANSISTOR 2SC2785-E	
Q612	8-729-178-55	TRANSISTOR 2SC2785-E	
Q614	8-729-178-54	TRANSISTOR 2SC2785	
Q615 ⚠	8-729-117-54	TRANSISTOR 2SA1175	
Q616	8-729-178-54	TRANSISTOR 2SC2785	
Q617	8-729-117-54	TRANSISTOR 2SA1175	
Q618	8-729-178-54	TRANSISTOR 2SC2785	
Q701	8-723-304-00	TRANSISTOR 2SK43-04	
Q703	8-723-304-00	TRANSISTOR 2SK43-04	
Q706	8-723-304-00	TRANSISTOR 2SK43-04	
Q710	8-729-117-54	TRANSISTOR 2SA1175	
Q714	8-729-178-54	TRANSISTOR 2SC2785	
Q715 ⚠	8-729-117-54	TRANSISTOR 2SA1175	
Q716	8-729-178-54	TRANSISTOR 2SC2785	
Q717	8-729-117-54	TRANSISTOR 2SA1175	
Q718	8-729-178-54	TRANSISTOR 2SC2785	
Q801	8-729-178-54	TRANSISTOR 2SC2785	
Q802	8-729-902-11	TRANSISTOR 2SC2021	
Q804	8-729-902-11	TRANSISTOR 2SC2021	
Q805	8-729-178-54	TRANSISTOR 2SC2785	
Q806	8-729-178-55	TRANSISTOR 2SC2785-E	
Q813	8-729-900-37	TRANSISTOR DTC-124EF	
Q814	8-729-178-55	TRANSISTOR 2SC2785-E	
Q816	8-729-178-55	TRANSISTOR 2SC2785-E	

Ref.No.	Part No.	Description	Remark
Q881 ⚠	8-729-178-55	TRANSISTOR 2SC2785	
Q882 ⚠	8-729-178-55	TRANSISTOR 2SC2785	
Q901	8-729-178-54	TRANSISTOR 2SC2785	
Q902	8-729-902-11	TRANSISTOR 2SC2021	
Q904	8-729-178-55	TRANSISTOR 2SC2785-E	
Q914	8-729-113-32	TRANSISTOR 2SB733	
Q915	8-729-178-54	TRANSISTOR 2SC2785	
Q916	8-729-177-32	TRANSISTOR 2SD773	
Q917 ⚠	8-729-113-32	TRANSISTOR 2SB733	
Q918	8-729-178-54	TRANSISTOR 2SC2785	
Q919	8-729-177-23	TRANSISTOR 2SB772	
Q920	8-729-178-55	TRANSISTOR 2SC2785-E	
Q921	8-729-178-55	TRANSISTOR 2SC2785-E	
Q922	8-729-117-54	TRANSISTOR 2SA1175	
Q923	8-729-178-55	TRANSISTOR 2SC2785-E	
Q924	8-729-178-55	TRANSISTOR 2SC2785-E	
Q925	8-729-178-55	TRANSISTOR 2SC2785-E	
Q926	8-729-178-55	TRANSISTOR 2SC2785-E	
Q927	8-729-178-55	TRANSISTOR 2SC2785-E	
Q929	8-729-178-55	TRANSISTOR 2SC2785-E	
Q931	8-729-178-55	TRANSISTOR 2SC2785-E	
Q932	8-729-178-55	TRANSISTOR 2SC2785-E	

RESISTOR

R601	1-246-807-00	CARBON	100K		1/8W
R602	1-246-799-00	CARBON	22K		1/8W
R603	1-247-852-00	CARBON	7.5K	5%	1/6W
R604	1-247-857-00	CARBON	12K	5%	1/6W
R605	1-246-795-00	CARBON	10K		1/8W
R606	1-246-795-00	CARBON	10K		1/8W
R607	1-246-797-00	CARBON	15K		1/8W
R608	1-247-811-00	CARBON	150	5%	1/6W
R609	1-246-773-00	CARBON	150		1/8W
R610	1-246-796-00	CARBON	12K	5%	1/8W
R620	1-247-839-00	CARBON	2.2K	5%	1/6W
R621	1-247-873-00	CARBON	56K	5%	1/6W
R630	1-246-795-00	CARBON	10K		1/8W
R631	1-246-807-00	CARBON	100K		1/8W
R653	1-247-863-00	CARBON	22K	5%	1/6W
R655	1-246-795-00	CARBON	10K		1/8W
R657	1-247-879-00	CARBON	100K	5%	1/6W
R660	1-246-807-00	CARBON	100K		1/8W
R661	1-246-799-00	CARBON	22K		1/8W
R664	1-247-049-00	CARBON	470K		1/8W
R667	1-246-799-00	CARBON	22K		1/8W
R668	1-246-807-00	CARBON	100K		1/8W
R669	1-246-796-00	CARBON	12K		1/8W
R670	1-246-789-00	CARBON	3.3K		1/8W
R671	1-246-851-00	CARBON	4.3K		1/8W
R672	1-246-771-00	CARBON	100		1/8W
R673	1-246-797-00	CARBON	15K		1/8W
R677	1-246-783-00	CARBON	1K		1/8W
R679	1-246-787-00	CARBON	2.2K		1/8W

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Ref.No.	Part No.	Description				Remark
R688	1-247-855-00	CARBON	10K	5%	1/6W	
R691	1-247-843-00	CARBON	3.3K	5%	1/6W	
R695	1-247-863-00	CARBON	22K	5%	1/6W	
R696	1-247-807-00	CARBON	100	5%	1/6W	
R697	1-247-863-00	CARBON	22K	5%	1/6W	
R698	1-247-840-00	CARBON	2.4K	5%	1/6W	
R699	1-247-837-00	CARBON	1.8K	5%	1/6W	
R701	1-246-807-00	CARBON	100K		1/8W	
R702	1-246-799-00	CARBON	22K		1/8W	
R703	1-247-852-00	CARBON	7.5K	5%	1/6W	
R704	1-247-857-00	CARBON	12K	5%	1/6W	
R705	1-246-795-00	CARBON	10K		1/8W	
R706	1-246-795-00	CARBON	10K		1/8W	
R707	1-246-797-00	CARBON	15K		1/8W	
R708	1-247-811-00	CARBON	150	5%	1/6W	
R709	1-246-773-00	CARBON	150		1/8W	
R710	1-246-796-00	CARBON	12K	5%	1/8W	
R720	1-247-839-00	CARBON	2.2K	5%	1/6W	
R721	1-247-873-00	CARBON	56K	5%	1/6W	
R730	1-246-795-00	CARBON	10K		1/8W	
R731	1-246-807-00	CARBON	100K		1/8W	
R753	1-247-863-00	CARBON	22K	5%	1/6W	
R755	1-246-798-00	CARBON	18K		1/8W	
R757	1-247-879-00	CARBON	100K	5%	1/6W	
R760	1-246-807-00	CARBON	100K		1/8W	
R761	1-246-799-00	CARBON	22K		1/8W	
R764	1-247-049-00	CARBON	470K		1/8W	
R767	1-246-799-00	CARBON	22K		1/8W	
R768	1-246-807-00	CARBON	100K		1/8W	
R769	1-246-799-00	CARBON	22K		1/8W	
R770	1-246-789-00	CARBON	3.3K		1/8W	
R771	1-246-851-00	CARBON	4.3K		1/8W	
R772	1-246-771-00	CARBON	100		1/8W	
R773	1-246-797-00	CARBON	15K		1/8W	
R777	1-246-783-00	CARBON	1K		1/8W	
R788	1-247-855-00	CARBON	10K	5%	1/6W	
R791	1-247-843-00	CARBON	3.3K	5%	1/6W	
R795	1-247-863-00	CARBON	22K	5%	1/6W	
R796	1-247-807-00	CARBON	100	5%	1/6W	
R797	1-247-863-00	CARBON	22K	5%	1/6W	
R798	1-247-840-00	CARBON	2.4K	5%	1/6W	
R799	1-247-831-00	CARBON	1K	5%	1/6W	
R803	1-246-783-00	CARBON	1K		1/8W	
R804	1-246-781-00	CARBON	680		1/8W	
R805	1-246-781-00	CARBON	680		1/8W	
R806	1-246-783-00	CARBON	1K		1/8W	
R809	1-246-783-00	CARBON	1K		1/8W	
R811	1-247-862-00	CARBON	20K	5%	1/6W	
R817	1-247-875-00	CARBON	68K	5%	1/6W	
R818	1-246-795-00	CARBON	10K		1/8W	
R819	1-246-846-00	CARBON	1.6K	5%	1/8W	
R821	1-246-783-00	CARBON	1K		1/8W	
R822	1-246-783-00	CARBON	1K		1/8W	

Ref.No.	Part No.	Description				Remark
R824	1-246-844-00	CARBON	1.1K		1/8W	
R827	1-246-783-00	CARBON	1K		1/8W	
R830	1-246-797-00	CARBON	15K		1/8W	
R831	1-246-792-00	CARBON	5.6K		1/8W	
R836	1-246-792-00	CARBON	5.6K		1/8W	
R841	1-246-795-00	CARBON	10K		1/8W	
R845	1-246-787-00	CARBON	2.2K		1/8W	
R850	1-246-804-00	CARBON	56K		1/8W	
R851	1-247-857-00	CARBON	12K	5%	1/6W	
R852	1-246-787-00	CARBON	2.2K		1/8W	
R854	1-246-787-00	CARBON	2.2K		1/8W	
R856	1-246-791-00	CARBON	4.7K		1/8W	
R857	1-246-787-00	CARBON	2.2K		1/8W	
R858	1-246-791-00	CARBON	4.7K		1/8W	
R859	1-246-791-00	CARBON	4.7K		1/8W	
R862	1-246-799-00	CARBON	22K		1/8W	
R866	1-246-801-00	CARBON	33K		1/8W	
R867	1-246-795-00	CARBON	10K		1/8W	
R881	1-246-783-00	CARBON	1K		1/8W	
R882	1-246-783-00	CARBON	1K		1/8W	
R883	1-246-793-00	CARBON	6.8K		1/8W	
R901	1-247-863-00	CARBON	22K	5%	1/6W	
R903	1-246-783-00	CARBON	1K		1/8W	
R904	1-247-823-00	CARBON	470	5%	1/6W	
R905	1-247-823-00	CARBON	470	5%	1/6W	
R906	1-246-783-00	CARBON	1K		1/8W	
R909	1-246-783-00	CARBON	1K		1/8W	
R911	1-247-839-00	CARBON	2.2K	5%	1/6W	
R917	1-247-875-00	CARBON	68K	5%	1/6W	
R918	1-246-795-00	CARBON	10K		1/8W	
R919	1-246-846-00	CARBON	1.6K	5%	1/8W	
R921	1-246-783-00	CARBON	1K		1/8W	
R922	1-246-783-00	CARBON	1K		1/8W	
R924	1-246-844-00	CARBON	1.1K		1/8W	
R927	1-246-783-00	CARBON	1K		1/8W	
R931	1-246-792-00	CARBON	5.6K		1/8W	
R933	1-246-799-00	CARBON	22K		1/8W	
R934	⚠ 1-246-771-00	CARBON	100		1/8W	
R936	1-246-792-00	CARBON	5.6K		1/8W	
R946	1-246-779-00	CARBON	470		1/8W	
R950	1-247-854-00	CARBON	9.1K	5%	1/6W	
R954	1-246-801-00	CARBON	33K		1/8W	
R955	1-246-803-00	CARBON	47K		1/8W	
R956	1-246-787-00	CARBON	2.2K		1/8W	
R958	1-246-771-00	CARBON	100		1/8W	
R965	1-246-799-00	CARBON	22K		1/8W	
R966	1-246-799-00	CARBON	22K		1/8W	
R967	1-246-787-00	CARBON	2.2K		1/8W	
R970	1-246-805-00	CARBON	68K		1/8W	
R971	1-247-879-00	CARBON	100K	5%	1/6W	
R975	1-246-783-00	CARBON	1K		1/8W	
R976	1-246-786-00	CARBON	1.8K		1/8W	
R978	⚠ 1-217-649-00	CEMENTED	8.2	10%	2W	

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Ref.No.	Part No.	Description				Remark
R979	1-246-780-00	CARBON	560		1/8W	
R981 ⚠	1-217-646-00	CEMENTED	12	10%	2W	
R983	1-246-783-00	CARBON	1K		1/8W	
R984 ⚠	1-212-873-00	FUSIBLE	47	5%	1/4W	F
R985	1-246-782-00	CARBON	820		1/8W	
R986	1-246-801-00	CARBON	33K		1/8W	
R987	1-246-783-00	CARBON	1K		1/8W	
R988 ⚠	1-217-649-00	CEMENTED	8.2	10%	2W	
R989	1-246-799-00	CARBON	22K		1/8W	
R990	1-246-795-00	CARBON	10K		1/8W	
R991	1-246-780-00	CARBON	560		1/8W	
R992	1-246-793-00	CARBON	6.8K		1/8W	
R993	1-246-795-00	CARBON	10K		1/8W	
R994	1-246-806-00	CARBON	82K		1/8W	
R995	1-246-787-00	CARBON	2.2K		1/8W	
R996	1-247-875-00	CARBON	68K	5%	1/6W	
R997	1-247-049-00	CARBON	470K		1/8W	
R998	1-246-795-00	CARBON	10K		1/8W	
R999	1-246-799-00	CARBON	22K		1/8W	

VARIABLE RESISTOR

RV601	1-226-711-00	RES, ADJ, SOLID 22K
RV603	1-226-711-00	RES, ADJ, SOLID 22K
RV605	1-226-753-00	RES, ADJ, SOLID 47K
RV606	1-226-710-00	RES, ADJ, SOLID 10K
RV701	1-226-711-00	RES, ADJ, SOLID 22K
RV703	1-226-711-00	RES, ADJ, SOLID 22K
RV705	1-226-753-00	RES, ADJ, SOLID 47K
RV706	1-226-710-00	RES, ADJ, SOLID 10K
RV801	1-226-711-00	RES, ADJ, SOLID 22K
RV802	1-226-708-00	RES, ADJ, SOLID 2.2K
RV901	1-226-711-00	RES, ADJ, SOLID 22K
RV902	1-226-708-00	RES, ADJ, SOLID 2.2K
RV905	1-226-710-00	RES, ADJ, SOLID 10K

CRYSTAL

X601	1-527-340-00	CERAMIC, OSC
X602	1-567-091-00	OSCILLATOR, SUPER LOCK

****

♣:1-610-217-00 AX-1 BOARD
****

CAPACITOR

C686	1-123-330-00	ELECT	22MF	20%	16V
C687	1-123-330-00	ELECT	22MF	20%	16V
C688	1-123-332-00	ELECT	47MF	20%	16V
C689	1-123-317-00	ELECT	22MF	20%	16V
C690	1-102-121-00	CERAMIC	0.0022MF	10%	50V
C786	1-123-330-00	ELECT	22MF	20%	16V
C787	1-123-330-00	ELECT	22MF	20%	16V
C788	1-123-332-00	ELECT	47MF	20%	16V
C790	1-102-121-00	CERAMIC	0.0022MF	10%	50V

Ref.No.	Part No.	Description	Remark

CONNECTOR

CN609	♣:1-564-290-00	PIN, CONNECTOR (L TYPE) 3P
CN610	♣:1-564-291-00	PIN, CONNECTOR (L TYPE) 5P

IC

IC605	8-759-250-81	IC TC5081AP
IC705	8-759-250-81	IC TC5081AP

TRANSISTOR

Q619	8-729-178-54	TRANSISTOR 2SC2785
Q620	8-729-178-54	TRANSISTOR 2SC2785
Q719	8-729-178-54	TRANSISTOR 2SC2785
Q720	8-729-178-54	TRANSISTOR 2SC2785
Q721	8-729-178-54	TRANSISTOR 2SC2785

RESISTOR

R624	1-246-775-00	CARBON	220	1/8W
R724	1-246-775-00	CARBON	220	1/8W

****

♣:A-6713-163-A AS-7W BOARD, COMPLETE
****

♣:X-3679-815-0 LID ASSY, REAR, SHIELD CASE (B)
♣:X-3679-818-0 LID ASSY, REAR, SHIELD CASE (A)
♣:3-679-943-00 SHIELD CASE (B) (MAIN), AS-7
♣:3-679-944-00 SHIELD CASE (A) (MAIN), AS-7

CAPACITOR

C101	1-123-328-00	ELECT	4.7MF	20%	25V
C102	1-101-888-00	CERAMIC	68PF	5%	50V
C103	1-123-356-00	ELECT	10MF	20%	16V
C104	1-123-328-00	ELECT	4.7MF	20%	25V
C105	1-101-888-00	CERAMIC	68PF	5%	50V
C106	1-123-356-00	ELECT	10MF	20%	16V
C107	1-123-328-00	ELECT	4.7MF	20%	25V
C108	1-101-886-00	CERAMIC	62PF	5%	50V
C109	1-123-356-00	ELECT	10MF	20%	16V
C110	1-123-328-00	ELECT	4.7MF	20%	25V
C111	1-123-330-00	ELECT	22MF	20%	16V
C112	1-123-294-00	ELECT	47MF	20%	6.3V
C113	1-123-356-00	ELECT	10MF	20%	16V
C114	1-131-402-00	ELECT(SOLID)	0.1MF	20%	16V
C115	1-123-356-00	ELECT	10MF	20%	16V
C116	1-123-328-00	ELECT	4.7MF	20%	25V
C117	1-123-306-00	ELECT	47MF	20%	10V
C119	1-123-294-00	ELECT	47MF	20%	6.3V
C120	1-123-328-00	ELECT	4.7MF	20%	25V
C121	1-123-330-00	ELECT	22MF	20%	16V
C122	1-123-356-00	ELECT	10MF	20%	16V
C123	1-123-306-00	ELECT	47MF	20%	10V
C124	1-123-306-00	ELECT	47MF	20%	10V
C126	1-123-330-00	ELECT	22MF	20%	16V

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Ref.No.	Part No.	Description			Remark
C127	1-123-330-00	ELECT	22MF	20%	16V
C201	1-123-328-00	ELECT	4.7MF	20%	25V
C202	1-101-888-00	CERAMIC	68PF	5%	50V
C203	1-123-356-00	ELECT	10MF	20%	16V
C204	1-123-328-00	ELECT	4.7MF	20%	25V
C205	1-101-888-00	CERAMIC	68PF	5%	50V
C206	1-123-356-00	ELECT	10MF	20%	16V
C207	1-123-328-00	ELECT	4.7MF	20%	25V
C208	1-101-886-00	CERAMIC	62PF	5%	50V
C209	1-123-356-00	ELECT	10MF	20%	16V
C210	1-123-328-00	ELECT	4.7MF	20%	25V
C211	1-123-330-00	ELECT	22MF	20%	16V
C212	1-123-294-00	ELECT	47MF	20%	6.3V
C213	1-123-356-00	ELECT	10MF	20%	16V
C214	1-131-402-00	ELECT(SOLID)	0.1MF	20%	16V
C215	1-123-356-00	ELECT	10MF	20%	16V
C216	1-123-328-00	ELECT	4.7MF	20%	25V
C217	1-123-306-00	ELECT	47MF	20%	10V
C226	1-123-330-00	ELECT	22MF	20%	16V
C227	1-123-330-00	ELECT	22MF	20%	16V
C301	1-102-980-00	CERAMIC	270PF	5%	50V
C302	1-102-824-00	CERAMIC	470PF	5%	50V
C303	1-130-470-00	MYLAR	820PF	5%	50V
C304	1-130-474-00	MYLAR	0.0018MF	5%	50V
C305	1-161-036-00	CERAMIC	0.047MF	20%	25V
C306	1-123-307-00	ELECT	100MF	20%	10V
C307	1-123-306-00	ELECT	47MF	20%	10V
C308	1-123-294-00	ELECT	47MF	20%	6.3V
C309	1-102-975-00	CERAMIC	100PF	10%	50V
C310	1-130-482-00	MYLAR	0.0082MF	5%	50V
C311	1-130-476-00	MYLAR	0.0027MF	5%	50V
C312	1-102-954-00	CERAMIC	10PF	10%	50V
C313	1-123-330-00	ELECT	22MF	20%	16V
C314	1-123-379-00	ELECT	0.47MF	20%	50V
C315	1-161-036-00	CERAMIC	0.047MF	20%	25V
C316	1-130-627-00	MYLAR	0.039MF	5%	50V
C317	1-130-485-00	MYLAR	0.015MF	5%	50V
C319	1-123-379-00	ELECT	0.47MF	20%	50V
C320	1-102-976-00	CERAMIC	180PF	5%	50V
C321	1-130-472-00	MYLAR	0.0012MF	5%	50V
C350	1-130-473-00	MYLAR	0.0015MF	5%	50V
C351	1-123-328-00	ELECT	4.7MF	20%	25V
C352	1-130-483-00	MYLAR	0.01MF	5%	50V
C353	1-130-480-00	MYLAR	0.0056MF	5%	50V
C354	1-130-493-00	MYLAR	0.068MF	5%	50V
C355	1-130-470-00	MYLAR	820PF	5%	50V
C356	1-130-471-00	MYLAR	0.001MF	5%	50V
C357	1-123-356-00	ELECT	10MF	20%	16V
C501	1-123-379-00	ELECT	0.47MF	20%	50V
C502	1-161-063-00	CERAMIC	0.1MF	20%	25V
C503	1-161-032-00	CERAMIC	0.01MF	20%	25V
C504	1-161-032-00	CERAMIC	0.01MF	20%	25V
C505	1-123-379-00	ELECT	0.47MF	20%	50V

Ref.No.	Part No.	Description			Remark
C506	1-129-710-00	FILM	0.0047MF	10%	630V
C507	1-130-479-00	MYLAR	0.0047MF	5%	50V
C508	1-130-477-00	MYLAR	0.0033MF	5%	50V
C509	1-123-332-00	ELECT	47MF	20%	16V
C510	1-123-356-00	ELECT	10MF	20%	16V
C511	1-123-332-00	ELECT	47MF	20%	16V
C512	1-123-332-00	ELECT	47MF	20%	25V
C513	1-123-356-00	ELECT	10MF	20%	16V
C514	1-123-306-00	ELECT	47MF	20%	10V
C515	1-123-356-00	ELECT	10MF	20%	25V
C516	1-123-356-00	ELECT	10MF	20%	16V
C517	1-123-306-00	ELECT	47MF	20%	10V
C518	1-123-330-00	ELECT	22MF	20%	16V
C519	1-123-330-00	ELECT	22MF	20%	16V
C520	1-123-305-00	ELECT	33MF	20%	10V
C521	1-123-295-00	ELECT	100MF	20%	6.3V

CONNECTOR

CN101♠:	1-560-471-00	PIN, CONNECTOR 10P
CN102♠:	1-564-007-31	PIN, CONNECTOR 8P
CN103♠:	1-564-007-00	PIN, CONNECTOR 8P
CN104♠:	1-564-004-00	PIN, CONNECTOR 5P
CN105♠:	1-564-009-21	PIN, CONNECTOR 10P
CN106♠:	1-564-005-00	PIN, CONNECTOR 6P
CN107♠:	1-560-456-00	PIN, CONNECTOR 2P
CN108♠:	1-560-466-00	PIN, CONNECTOR 3P
CN301♠:	1-560-467-00	PIN, CONNECTOR 4P
CN302♠:	1-560-466-00	PIN, CONNECTOR 3P
CN501♠:	1-564-009-31	PIN, CONNECTOR 10P
CN502♠:	1-560-456-00	PIN, CONNECTOR 2P
CN503♠:	1-560-470-00	PIN, CONNECTOR 8P
CN504♠:	1-564-007-00	PIN, CONNECTOR 8P
CN505♠:	1-560-468-00	PIN, CONNECTOR 5P
CN506♠:	1-560-456-00	PIN, CONNECTOR 2P

TRIMAR

CV301	1-141-215-00	CAP, TRIMAR

DIODE

D001	8-719-911-19	DIODE 1SS119
D008	8-719-911-19	DIODE 1SS119
D010	8-719-911-19	DIODE 1SS119
D023	8-719-911-19	DIODE 1SS119
D024	8-719-911-19	DIODE 1SS119
D025	8-719-911-19	DIODE 1SS119
D026	8-719-911-19	DIODE 1SS119
D027	8-719-911-19	DIODE 1SS119
D028	8-719-911-19	DIODE 1SS119
D029	8-719-911-19	DIODE 1SS119
D030	8-719-911-19	DIODE 1SS119
D031	8-719-911-19	DIODE 1SS119
D032	8-719-911-19	DIODE 1SS119

Ref.No.	Part No.	Description	Remark
D035	8-719-911-19	DIODE 1SS119	
D036	8-719-911-19	DIODE 1SS119	
D037	8-719-911-19	DIODE 1SS119	
D040	8-719-911-19	DIODE 1SS119	
D101	8-719-911-19	DIODE 1SS119	
D102	8-719-911-19	DIODE 1SS119	
D103	8-719-118-07	DIODE RD18E-B	
D104	8-719-118-07	DIODE RD18E-B	
D105	8-719-911-19	DIODE 1SS119	
D106	8-719-911-19	DIODE 1SS119	
D107	8-719-911-19	DIODE 1SS119	
D108	8-719-113-07	DIODE RD13E-B	
D120	8-719-911-19	DIODE 1SS119	
D121	8-719-911-19	DIODE 1SS119	
D122	8-719-911-19	DIODE 1SS119	
D201	8-719-911-19	DIODE 1SS119	
D202	8-719-911-19	DIODE 1SS119	
D203	8-719-118-07	DIODE RD18E-B	
D204	8-719-118-07	DIODE RD18E-B	
D205	8-719-911-19	DIODE 1SS119	
D206	8-719-911-19	DIODE 1SS119	
D220	8-719-911-19	DIODE 1SS119	
D221	8-719-911-19	DIODE 1SS119	
D222	8-719-911-19	DIODE 1SS119	
D301	8-719-911-19	DIODE 1SS119	
D501	8-719-911-19	DIODE 1SS119	
D503	8-719-911-19	DIODE 1SS119	
D504	8-719-911-19	DIODE 1SS119	
D505	8-719-911-19	DIODE 1SS119	
D506	8-719-911-19	DIODE 1SS119	
D510	8-719-911-19	DIODE 1SS119	
D511	8-719-911-19	DIODE 1SS119	
D512	8-719-191-07	DIODE RD9.1E-B	

IC

Ref.No.	Part No.	Description	Remark
IC001	8-759-245-55	IC TC4555BP	
IC101	8-759-240-52	IC TC4052BP	
IC102	8-759-745-60	IC NJM4560D	
IC103	8-759-145-58	IC UPC4558C	
IC104	8-759-240-53	IC TC4053BP	
IC105	8-759-240-53	IC TC4053BP	
IC106	8-759-145-58	IC UPC4558C	
IC107	8-759-240-66	IC TC4066BP	
IC201	8-759-240-52	IC TC4052BP	
IC202	8-759-145-58	IC UPC4558C	
IC204	8-759-240-66	IC TC4066BP	
IC301	8-759-145-58	IC UPC4558C	
IC303	8-759-240-66	IC TC4066BP	
IC304	8-759-240-52	IC TC4052BP	

JACK

Ref.No.	Part No.	Description	Remark
J502	1-507-744-00	JACK, PIN	

COIL

Ref.No.	Part No.	Description	Remark
L301	1-459-351-00	COIL (WITH CORE)	
L501	1-407-710-00	MICRO INDUCTOR 270UH	
L502	1-407-191-XX	MICRO INDUCTOR 470UH	
L503	1-407-191-XX	MICRO INDUCTOR 470UH	

VARIABLE COIL

Ref.No.	Part No.	Description	Remark
LV301	1-408-523-00	COIL, VARIABLE	
LV501	1-408-524-00	INDUCTOR, ADJ	

TRANSISTOR

Ref.No.	Part No.	Description	Remark
Q001	8-729-178-54	TRANSISTOR 2SC2785	
Q002	8-729-178-54	TRANSISTOR 2SC2785	
Q101	8-729-178-54	TRANSISTOR 2SC2785	
Q102	8-729-178-54	TRANSISTOR 2SC2785	
Q103	8-729-178-54	TRANSISTOR 2SC2785	
Q104	8-729-384-48	TRANSISTOR 2SA844	
Q105	8-729-384-48	TRANSISTOR 2SA844	
Q106	8-729-178-54	TRANSISTOR 2SC2785	
Q108	8-729-178-54	TRANSISTOR 2SC2785	
Q109	=>8-729-117-54	TRANSISTOR 2SA1175	
Q111	8-729-178-54	TRANSISTOR 2SC2785	
Q113	8-729-178-54	TRANSISTOR 2SC2785	
Q114	=>8-729-117-54	TRANSISTOR 2SA1175	
Q201	8-729-178-54	TRANSISTOR 2SC2785	
Q202	8-729-178-54	TRANSISTOR 2SC2785	
Q203	8-729-178-54	TRANSISTOR 2SC2785	
Q204	8-729-384-48	TRANSISTOR 2SA844	
Q205	8-729-384-48	TRANSISTOR 2SA844	
Q206	8-729-178-54	TRANSISTOR 2SC2785	
Q208	8-729-178-54	TRANSISTOR 2SC2785	
Q209	=>8-729-117-54	TRANSISTOR 2SA1175	
Q213	8-729-178-54	TRANSISTOR 2SC2785	
Q301	8-729-178-54	TRANSISTOR 2SC2785	
Q302	8-729-178-54	TRANSISTOR 2SC2785	
Q303	8-729-908-62	TRANSISTOR 2SD786	
Q304	8-729-602-76	TRANSISTOR 2SA1027-6	
Q305	8-729-178-54	TRANSISTOR 2SC2785	
Q306	8-729-178-54	TRANSISTOR 2SC2785	
Q307	8-729-178-54	TRANSISTOR 2SC2785	
Q308	8-729-178-54	TRANSISTOR 2SC2785	
Q310	8-729-178-54	TRANSISTOR 2SC2785	
Q311	=>8-729-117-54	TRANSISTOR 2SA1175	
Q351	8-729-178-54	TRANSISTOR 2SC2785	
Q411	8-729-178-54	TRANSISTOR 2SC2785	
Q501	8-729-178-54	TRANSISTOR 2SC2785	
Q502	8-729-902-11	TRANSISTOR 2SC2021	
Q503	8-729-902-11	TRANSISTOR 2SC2021	
Q506	8-729-178-54	TRANSISTOR 2SC2785	
Q507	=>8-729-117-54	TRANSISTOR 2SA1175	
Q508	8-729-178-54	TRANSISTOR 2SC2785	
Q509	8-729-178-54	TRANSISTOR 2SC2785	

Ref.No.	Part No.	Description	Remark
Q510	=>8-729-117-54	TRANSISTOR 2SA1175	
Q511	8-729-967-32	TRANSISTOR 2SC2673	
Q512	⚠ 8-729-967-32	TRANSISTOR 2SC2673	
Q514	⚠ 8-729-988-12	TRANSISTOR 2SA881	
Q515	⚠ 8-729-178-54	TRANSISTOR 2SC2785	
Q516	8-729-967-32	TRANSISTOR 2SC2673	
Q517	=>8-729-117-54	TRANSISTOR 2SA1175	
Q518	8-729-988-12	TRANSISTOR 2SA881	
Q519	8-729-178-54	TRANSISTOR 2SC2785	
Q520	8-729-178-54	TRANSISTOR 2SC2785	
Q521	8-729-178-54	TRANSISTOR 2SC2785	
Q522	=>8-729-117-54	TRANSISTOR 2SA1175	
Q523	8-729-178-54	TRANSISTOR 2SC2785	
Q524	8-729-178-54	TRANSISTOR 2SC2785	
Q525	⚠ 8-729-117-54	TRANSISTOR 2SA1175	
Q526	8-729-178-54	TRANSISTOR 2SC2785	
Q527	8-729-178-54	TRANSISTOR 2SC2785	
Q528	8-729-178-54	TRANSISTOR 2SC2785	
Q529	=>8-729-117-54	TRANSISTOR 2SA1175	
Q530	8-729-178-54	TRANSISTOR 2SC2785	
		RESISTOR	
R013	1-246-807-00	CARBON 100K 1/8W	
R014	1-246-811-00	CARBON 220K 1/8W	
R015	1-246-865-00	CARBON 62K 1/8W	
R016	1-246-807-00	CARBON 100K 1/8W	
R017	1-246-865-00	CARBON 62K 1/8W	
R018	1-246-807-00	CARBON 100K 1/8W	
R019	1-246-865-00	CARBON 62K 1/8W	
R020	1-246-807-00	CARBON 100K 1/8W	
R021	1-246-477-00	CARBON 1.5K 5% 1/4W	
R022	1-246-807-00	CARBON 100K 1/8W	
R023	1-246-799-00	CARBON 22K 1/8W	
R024	1-246-799-00	CARBON 22K 1/8W	
R025	1-246-807-00	CARBON 100K 1/8W	
R026	1-246-800-00	CARBON 27K 1/8W	
R027	1-246-799-00	CARBON 22K 1/8W	
R028	1-246-791-00	CARBON 4.7K 1/8W	
R029	1-246-799-00	CARBON 22K 1/8W	
R030	1-246-811-00	CARBON 220K 1/8W	
R031	1-246-811-00	CARBON 220K 1/8W	
R102	1-246-800-00	CARBON 27K 1/8W	
R103	1-246-807-00	CARBON 100K 1/8W	
R104	1-246-795-00	CARBON 10K 1/8W	
R105	1-246-799-00	CARBON 22K 1/8W	
R106	1-246-811-00	CARBON 220K 1/8W	
R107	1-246-800-00	CARBON 27K 1/8W	
R108	1-246-807-00	CARBON 100K 1/8W	
R109	1-246-795-00	CARBON 10K 1/8W	
R110	1-246-799-00	CARBON 22K 1/8W	
R111	1-246-811-00	CARBON 220K 1/8W	
R112	1-246-807-00	CARBON 100K 1/8W	
R113	1-246-801-00	CARBON 33K 1/8W	
R114	1-246-795-00	CARBON 10K 1/8W	
R115	1-246-799-00	CARBON 22K 1/8W	
R116	1-246-845-00	CARBON 1.3K 1/8W	
R117	1-246-795-00	CARBON 10K 1/8W	
R118	1-246-791-00	CARBON 4.7K 1/8W	
R119	1-247-049-00	CARBON 470K 1/8W	
R120	1-246-810-00	CARBON 180K 1/8W	
R121	1-247-046-00	CARBON 270K 1/8W	
R122	1-246-789-00	CARBON 3.3K 1/8W	
R123	1-246-802-00	CARBON 39K 1/8W	
R124	1-246-794-00	CARBON 8.2K 1/8W	
R125	1-246-771-00	CARBON 100 1/8W	
R126	1-246-784-00	CARBON 1.2K 1/8W	
R127	1-246-790-00	CARBON 3.9K 1/8W	
R128	1-246-771-00	CARBON 100 1/8W	
R129	1-246-771-00	CARBON 100 1/8W	
R130	1-247-047-00	CARBON 330K 1/8W	
R131	1-247-053-00	CARBON 1M 1/8W	
R132	1-247-053-00	CARBON 1M 1/8W	
R133	1-246-799-00	CARBON 22K 1/8W	
R134	1-246-791-00	CARBON 4.7K 1/8W	
R137	1-246-847-00	CARBON 2K 1/8W	
R138	1-246-807-00	CARBON 100K 1/8W	
R139	1-246-795-00	CARBON 10K 1/8W	
R140	1-246-795-00	CARBON 10K 1/8W	
R141	1-246-795-00	CARBON 10K 1/8W	
R142	1-246-795-00	CARBON 10K 1/8W	
R143	1-246-798-00	CARBON 18K 1/8W	
R144	1-246-807-00	CARBON 100K 1/8W	
R145	1-246-807-00	CARBON 100K 1/8W	
R146	1-246-779-00	CARBON 470 1/8W	
R150	1-246-801-00	CARBON 33K 1/8W	
R151	1-246-801-00	CARBON 33K 1/8W	
R152	1-246-807-00	CARBON 100K 1/8W	
R153	1-246-804-00	CARBON 56K 1/8W	
R154	1-246-804-00	CARBON 56K 1/8W	
R155	1-246-807-00	CARBON 100K 1/8W	
R159	1-246-801-00	CARBON 33K 1/8W	
R160	1-246-795-00	CARBON 10K 1/8W	
R161	1-246-788-00	CARBON 2.7K 1/8W	
R162	1-246-783-00	CARBON 1K 1/8W	
R163	1-246-792-00	CARBON 5.6K 1/8W	
R164	1-246-804-00	CARBON 56K 1/8W	
R165	1-246-811-00	CARBON 220K 1/8W	
R166	1-246-807-00	CARBON 100K 1/8W	
R167	1-246-799-00	CARBON 22K 1/8W	
R169	1-246-473-00	CARBON 1K 5% 1/4W	
R170	1-246-771-00	CARBON 100 1/8W	
R171	1-246-791-00	CARBON 4.7K 1/8W	
R172	1-246-804-00	CARBON 56K 1/8W	
R173	1-246-807-00	CARBON 100K 1/8W	
R176	⚠ 1-246-767-00	CARBON 47 1/8W	
R177	⚠ 1-246-767-00	CARBON 47 1/8W	

NOTE:

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No.	Part No.	Description				Remark
R178	1-246-795-00	CARBON	10K		1/8W	
R179	1-246-803-00	CARBON	47K		1/8W	
R180	1-246-795-00	CARBON	10K		1/8W	
R181	1-246-794-00	CARBON	8.2K		1/8W	
R182	1-246-786-00	CARBON	1.8K		1/8W	
R183	1-246-807-00	CARBON	100K		1/8W	
R184	1-246-805-00	CARBON	68K		1/8W	
R185	1-246-809-00	CARBON	150K		1/8W	
R186	1-246-804-00	CARBON	56K		1/8W	
R189	1-246-795-00	CARBON	10K		1/8W	
R192	1-246-771-00	CARBON	100		1/8W	
R193	1-246-787-00	CARBON	2.2K		1/8W	
R194	1-246-799-00	CARBON	22K		1/8W	
R195	1-246-807-00	CARBON	100K		1/8W	
R199	1-246-797-00	CARBON	15K		1/8W	
R202	1-246-800-00	CARBON	27K		1/8W	
R203	1-246-807-00	CARBON	100K		1/8W	
R204	1-246-795-00	CARBON	10K		1/8W	
R205	1-246-799-00	CARBON	22K		1/8W	
R206	1-246-811-00	CARBON	220K		1/8W	
R207	1-246-800-00	CARBON	27K		1/8W	
R208	1-246-807-00	CARBON	100K		1/8W	
R209	1-246-795-00	CARBON	10K		1/8W	
R210	1-246-799-00	CARBON	22K		1/8W	
R211	1-246-811-00	CARBON	220K		1/8W	
R212	1-246-807-00	CARBON	100K		1/8W	
R213	1-246-801-00	CARBON	33K		1/8W	
R214	1-246-795-00	CARBON	10K		1/8W	
R215	1-246-799-00	CARBON	22K		1/8W	
R216	1-246-845-00	CARBON	1.3K		1/8W	
R217	1-246-795-00	CARBON	10K		1/8W	
R218	1-246-791-00	CARBON	4.7K		1/8W	
R219	1-247-049-00	CARBON	470K		1/8W	
R220	1-246-810-00	CARBON	180K		1/8W	
R221	1-247-046-00	CARBON	270K		1/8W	
R222	1-246-789-00	CARBON	3.3K		1/8W	
R223	1-246-802-00	CARBON	39K		1/8W	
R224	1-246-794-00	CARBON	8.2K		1/8W	
R225	1-246-771-00	CARBON	100		1/8W	
R226	1-246-784-00	CARBON	1.2K		1/8W	
R227	1-246-790-00	CARBON	3.9K		1/8W	
R246	1-246-779-00	CARBON	470		1/8W	
R260	1-246-795-00	CARBON	10K		1/8W	
R261	1-246-788-00	CARBON	2.7K		1/8W	
R262	1-246-783-00	CARBON	1K		1/8W	
R263	1-246-792-00	CARBON	5.6K		1/8W	
R280	1-246-795-00	CARBON	10K		1/8W	
R281	1-246-794-00	CARBON	8.2K		1/8W	
R282	1-246-786-00	CARBON	1.8K		1/8W	
R283	1-246-807-00	CARBON	100K		1/8W	
R284	1-246-805-00	CARBON	68K		1/8W	
R289	1-246-795-00	CARBON	10K		1/8W	
R292	1-246-771-00	CARBON	100		1/8W	
R293	1-246-787-00	CARBON	2.2K		1/8W	
R294	1-246-799-00	CARBON	22K		1/8W	
R299	1-246-797-00	CARBON	15K		1/8W	
R301	1-246-759-00	CARBON	10		1/8W	
R303	1-246-801-00	CARBON	33K		1/8W	
R304	1-246-801-00	CARBON	33K		1/8W	
R305	1-246-539-00	CARBON	560K	5%	1/4W	
R306	1-246-521-00	CARBON	100K	5%	1/4W	
R307	1-246-773-00	CARBON	150		1/8W	
R308	1-246-517-00	CARBON	68K	5%	1/4W	
R309	1-247-056-00	CARBON	360K		1/8W	
R310	1-246-795-00	CARBON	10K		1/8W	
R311	1-246-792-00	CARBON	5.6K		1/8W	
R312	1-246-799-00	CARBON	22K		1/8W	
R313	1-246-803-00	CARBON	47K		1/8W	
R314	1-246-796-00	CARBON	12K		1/8W	
R315	1-246-792-00	CARBON	5.6K		1/8W	
R316	1-246-795-00	CARBON	10K		1/8W	
R317	1-246-801-00	CARBON	33K		1/8W	
R318	1-246-852-00	CARBON	5.1K		1/8W	
R319	1-246-846-00	CARBON	1.6K		1/8W	
R320	1-246-801-00	CARBON	33K		1/8W	
R321	1-246-801-00	CARBON	33K		1/8W	
R322	1-246-796-00	CARBON	12K		1/8W	
R323	1-246-801-00	CARBON	33K		1/8W	
R324	1-246-801-00	CARBON	33K		1/8W	
R325	1-246-807-00	CARBON	100K		1/8W	
R326	1-246-799-00	CARBON	22K		1/8W	
R327	1-246-799-00	CARBON	22K		1/8W	
R330	1-246-807-00	CARBON	100K		1/8W	
R331	1-246-799-00	CARBON	22K		1/8W	
R332	1-246-792-00	CARBON	5.6K		1/8W	
R333	1-246-801-00	CARBON	33K		1/8W	
R334	1-246-804-00	CARBON	56K		1/8W	
R335	1-246-811-00	CARBON	220K		1/8W	
R336	1-246-807-00	CARBON	100K		1/8W	
R338	1-246-807-00	CARBON	100K		1/8W	
R350	1-246-861-00	CARBON	30K		1/8W	
R351	1-246-791-00	CARBON	4.7K		1/8W	
R352	1-246-795-00	CARBON	10K		1/8W	
R354	1-246-860-00	CARBON	24K		1/8W	
R355	1-246-861-00	CARBON	30K		1/8W	
R356	1-246-788-00	CARBON	2.7K		1/8W	
R357	1-246-776-00	CARBON	270		1/8W	
R358	1-246-801-00	CARBON	33K		1/8W	
R359	1-246-789-00	CARBON	3.3K		1/8W	
R360	1-246-797-00	CARBON	15K		1/8W	
R364	1-246-793-00	CARBON	6.8K		1/8W	
R502	1-246-795-00	CARBON	10K		1/8W	
R503	1-246-789-00	CARBON	3.3K		1/8W	
R504	1-246-807-00	CARBON	100K		1/8W	
R505	1-246-803-00	CARBON	47K		1/8W	
R506	1-246-791-00	CARBON	4.7K		1/8W	

Ref.No.	Part No.	Description				Remark
R512	1-246-791-00	CARBON	4.7K		1/8W	
R523	1-246-807-00	CARBON	100K		1/8W	
R524	1-246-801-00	CARBON	33K		1/8W	
R528	1-246-807-00	CARBON	100K		1/8W	
R529	1-246-807-00	CARBON	100K		1/8W	
R532	1-246-799-00	CARBON	22K		1/8W	
R533	1-246-801-00	CARBON	33K		1/8W	
R534	1-246-767-00	CARBON	47		1/8W	
R535	1-246-807-00	CARBON	100K		1/8W	
R536	1-246-801-00	CARBON	33K		1/8W	
R537	1-246-799-00	CARBON	22K		1/8W	
R538	1-246-795-00	CARBON	10K		1/8W	
R539	1-246-767-00	CARBON	47		1/8W	
R540	1-246-859-00	CARBON	20K		1/8W	
R541 ⚠	1-246-980-00	CARBON	3.3	5%	1/8W	F
R545	1-246-788-00	CARBON	2.7K		1/8W	
R546	1-246-781-00	CARBON	680		1/8W	
R547	1-246-791-00	CARBON	4.7K		1/8W	
R548	1-246-795-00	CARBON	10K		1/8W	
R549	1-246-771-00	CARBON	100		1/8W	
R550	1-246-792-00	CARBON	5.6K		1/8W	
R551	1-246-792-00	CARBON	5.6K		1/8W	
R552 ⚠.	1-217-639-00	FUSIBLE	2.2	5%	1/4W	F
R553 ⚠.	1-217-639-00	FUSIBLE	2.2	5%	1/4W	F
R556	1-246-759-00	CARBON	10		1/8W	
R557 ⚠.	1-246-985-11	CARBON	33	5%	1/8W	F
R558	1-246-784-00	CARBON	1.2K		1/8W	
R559	1-246-788-00	CARBON	2.7K		1/8W	
R560	1-246-787-00	CARBON	2.2K		1/8W	
R561	1-246-785-00	CARBON	1.5K		1/8W	
R562	1-246-771-00	CARBON	100		1/8W	
R563 ⚠	1-246-985-00	CARBON	33	5%	1/8W	F
R565	1-246-799-00	CARBON	22K		1/8W	
R566	1-246-783-00	CARBON	1K		1/8W	
R567	1-246-771-00	CARBON	100		1/8W	
R568	1-246-799-00	CARBON	22K		1/8W	
R569	1-246-805-00	CARBON	68K		1/8W	
R571	1-246-805-00	CARBON	68K		1/8W	
R572	1-246-807-00	CARBON	100K		1/8W	
R574	1-246-783-00	CARBON	1K		1/8W	
R576	1-246-803-00	CARBON	47K		1/8W	
R578	1-246-795-00	CARBON	10K		1/8W	
R579	1-246-795-00	CARBON	10K		1/8W	
R582	1-246-811-00	CARBON	220K		1/8W	
R584	1-246-805-00	CARBON	68K		1/8W	
R587	1-246-803-00	CARBON	47K		1/8W	
R589	1-246-783-00	CARBON	1K		1/8W	
R590	1-246-807-00	CARBON	100K		1/8W	

VARIABLE RESISTOR

Ref.No.	Part No.	Description
RV102	1-228-751-00	RES, ADJ, CARBON 100K
RV301	1-228-750-00	RES, ADJ, CARBON 47K
RV302	1-228-752-00	RES, ADJ, CARBON 220K
RV303	1-228-748-00	RES, ADJ, CARBON 10K

RELAY

Ref.No.	Part No.	Description
RY301	1-515-418-00	RELAY
RY501	1-515-416-00	RELAY

TRANSFORMER

Ref.No.	Part No.	Description
T501	1-433-236-00	TRANSFORMER, OSCILLATOR

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♠:A-6713-180-A IS-1 BOARD, COMPLETE

CAPACITOR

Ref.No.	Part No.	Description			
C001	1-102-973-00	CERAMIC	100PF	5%	50V
C002	1-102-978-00	CERAMIC	220PF	5%	50V
C003	1-102-978-00	CERAMIC	220PF	5%	50V
C004	1-130-516-00	FILM	0.01MF	10%	50V
C005	1-102-973-00	CERAMIC	100PF	5%	50V
C006	1-130-485-00	MYLAR	0.015MF	5%	50V
C007	1-123-617-00	ELECT	10MF	20%	16V
C008	1-123-822-00	ELECT	47MF	20%	10V
C009	1-123-617-00	ELECT	10MF	20%	16V
C010	1-123-617-00	ELECT	10MF	20%	16V
C011	1-123-617-00	ELECT	10MF	20%	16V
C012	1-123-617-00	ELECT	10MF	20%	16V
C013	1-123-617-00	ELECT	10MF	20%	16V
C014	1-123-644-00	ELECT	22MF	20%	10V
C015	1-123-617-00	ELECT	10MF	20%	16V
C016	1-123-644-00	ELECT	22MF	20%	10V
C017	1-123-617-00	ELECT	10MF	20%	16V
C018	1-123-617-00	ELECT	10MF	20%	16V
C019	1-123-617-00	ELECT	10MF	20%	16V
C020	1-123-617-00	ELECT	10MF	20%	16V
C021	1-123-617-00	ELECT	10MF	20%	16V
C022	1-123-617-00	ELECT	10MF	20%	16V
C023	1-123-644-00	ELECT	22MF	20%	10V

CONNECTOR

Ref.No.	Part No.	Description
CN001♠:	1-564-022-00	PIN, CONNECTOR 12P

DIODE

Ref.No.	Part No.	Description
D001	8-719-911-19	DIODE 1SS119
D002	8-719-911-19	DIODE 1SS119

IC

Ref.No.	Part No.	Description
IC001	8-759-145-58	IC UPC4558C
IC002	8-759-145-58	IC UPC4558C

TRANSISTOR

Ref.No.	Part No.	Description
Q001	8-729-902-11	TRANSISTOR 2SC2021

NOTE:

The components identified by shading and mark ⚠ are critical for safety. *Replace only* with part number specified.

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No.	Part No.	Description				Remark
Q002	8-729-902-11	TRANSISTOR 2SC2021				
Q003	8-729-902-11	TRANSISTOR 2SC2021				
Q004	8-729-902-11	TRANSISTOR 2SC2021				
Q005	8-729-902-11	TRANSISTOR 2SC2021				
Q006	8-729-993-72	TRANSISTOR 2SA937				
Q007	8-729-902-11	TRANSISTOR 2SC2021				
Q008	8-729-902-11	TRANSISTOR 2SC2021				
Q009	8-729-902-11	TRANSISTOR 2SC2021				

RESISTOR

Ref.No.	Part No.	Description				Remark
R001	1-247-871-00	CARBON	47K	5%	1/6W	
R002	1-247-879-00	CARBON	100K	5%	1/6W	
R003	1-247-855-00	CARBON	10K	5%	1/6W	
R004	1-247-855-00	CARBON	10K	5%	1/6W	
R005	1-247-855-00	CARBON	10K	5%	1/6W	
R006	1-247-855-00	CARBON	10K	5%	1/6W	
R007	1-247-855-00	CARBON	10K	5%	1/6W	
R008	1-247-847-00	CARBON	4.7K	5%	1/6W	
R009	1-247-867-00	CARBON	33K	5%	1/6W	
R010	1-247-867-00	CARBON	33K	5%	1/6W	
R011	1-247-875-00	CARBON	68K	5%	1/6W	
R012	1-247-847-00	CARBON	4.7K	5%	1/6W	
R013	1-247-863-00	CARBON	22K	5%	1/6W	
R014	1-247-863-00	CARBON	22K	5%	1/6W	
R015	1-247-831-00	CARBON	1K	5%	1/6W	
R016	1-247-871-00	CARBON	47K	5%	1/6W	
R018	1-247-855-00	CARBON	10K	5%	1/6W	
R019	1-247-855-00	CARBON	10K	5%	1/6W	
R020	1-247-855-00	CARBON	10K	5%	1/6W	
R021	1-247-855-00	CARBON	10K	5%	1/6W	
R022	1-247-855-00	CARBON	10K	5%	1/6W	
R023	1-247-855-00	CARBON	10K	5%	1/6W	
R024	1-247-855-00	CARBON	10K	5%	1/6W	
R025	1-247-855-00	CARBON	10K	5%	1/6W	
R026	1-247-855-00	CARBON	10K	5%	1/6W	
R027	1-247-855-00	CARBON	10K	5%	1/6W	
R028	1-247-855-00	CARBON	10K	5%	1/6W	
R029	1-247-827-00	CARBON	680	5%	1/6W	
R030	1-247-867-00	CARBON	33K	5%	1/6W	
R031	1-247-865-00	CARBON	27K	5%	1/6W	
R032	1-247-847-00	CARBON	4.7K	5%	1/6W	
R033	1-247-855-00	CARBON	10K	5%	1/6W	
R034	1-247-855-00	CARBON	10K	5%	1/6W	
R035	1-247-855-00	CARBON	10K	5%	1/6W	
R036	1-247-855-00	CARBON	10K	5%	1/6W	
R037	1-247-827-00	CARBON	680	5%	1/6W	
R038	1-247-867-00	CARBON	33K	5%	1/6W	
R039	1-247-865-00	CARBON	27K	5%	1/6W	
R040	1-247-847-00	CARBON	4.7K	5%	1/6W	
R041	1-247-855-00	CARBON	10K	5%	1/6W	
R042	1-247-855-00	CARBON	10K	5%	1/6W	
R043	1-247-855-00	CARBON	10K	5%	1/6W	
R045	1-247-855-00	CARBON	10K	5%	1/6W	
R046	1-247-855-00	CARBON	10K	5%	1/6W	

VARIABLE RESISTOR

Ref.No.	Part No.	Description	Remark
RV001	1-228-744-00	RES, ADJ, CARBON 470	

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	♠:A-6715-184-A	SS-14 BOARD, COMPLETE *********************
	♠:X-3670-042-0	LID ASSY, REAR, SHIELD CASE
	♠:X-3670-043-0	LID ASSY, REAR, SS-14 SHIELD CASE
	♠:1-564-187-00	PIN, CONNECTOR
	♠:3-655-214-00	CLIP, CABLE
	♠:3-671-839-00	CASE (MAIN), SHIELD, SS-14

CAPACITOR

Ref.No.	Part No.	Description				Remark
C001	1-123-318-00	ELECT	33MF	20%	16V	
C002	1-161-057-00	CERAMIC	0.033MF	10%	50V	
C003	1-123-617-00	ELECT	10MF	20%	16V	
C004	1-123-617-00	ELECT	10MF	20%	16V	
C005	1-161-039-00	CERAMIC	0.001MF	10%	25V	
C006	1-123-333-00	ELECT	100MF	20%	16V	
C007	1-123-318-00	ELECT	33MF	20%	16V	
C008	1-161-057-00	CERAMIC	0.033MF	10%	50V	
C009	1-130-482-00	MYLAR	0.0082MF	5%	50V	
C010	1-130-482-00	MYLAR	0.0082MF	5%	50V	
C011	1-123-612-00	ELECT	2.2MF	20%	50V	
C012	1-123-612-00	ELECT	2.2MF	20%	50V	
C013	1-123-611-00	ELECT	1MF	20%	50V	
C014	1-123-611-00	ELECT	1MF	20%	50V	
C015	1-123-611-00	ELECT	1MF	20%	50V	
C016	1-123-611-00	ELECT	1MF	20%	50V	
C017	1-123-617-00	ELECT	10MF	20%	16V	
C018	1-123-318-00	ELECT	33MF	20%	16V	
C019	1-161-057-00	CERAMIC	0.033MF	10%	50V	
C020	1-123-318-00	ELECT	33MF	20%	16V	
C021	1-161-057-00	CERAMIC	0.033MF	10%	50V	
C022	1-123-611-00	ELECT	1MF	20%	50V	
C023	1-123-611-00	ELECT	1MF	20%	50V	
C024	1-161-009-00	CERAMIC	0.0047MF	10%	25V	
C026	1-161-039-00	CERAMIC	0.001MF	10%	25V	
C028	1-123-611-00	ELECT	1MF	20%	50V	
C029	1-123-613-00	ELECT	3.3MF	20%	50V	
C030	1-123-318-00	ELECT	33MF	20%	16V	
C031	1-161-057-00	CERAMIC	0.033MF	10%	50V	
C032	1-161-057-00	CERAMIC	0.033MF	10%	50V	
C033	1-123-318-00	ELECT	33MF	20%	16V	
C034	1-161-057-00	CERAMIC	0.033MF	10%	50V	
C035	1-161-021-00	CERAMIC	0.047MF	10%	25V	
C036	1-161-021-00	CERAMIC	0.047MF	10%	25V	
C037	1-161-005-00	CERAMIC	0.0022MF	10%	25V	
C038	1-123-616-00	ELECT	4.7MF	20%	25V	
C039	1-161-057-00	CERAMIC	0.033MF	10%	50V	

Ref.No.	Part No.	Description			Remark
C040	1-161-057-00	CERAMIC	0.033MF	10%	50V
C041	1-123-611-00	ELECT	1MF	20%	50V
C044	1-161-005-00	CERAMIC	0.0022MF	10%	25V
C045	1-161-005-00	CERAMIC	0.0022MF	10%	25V
C301	1-161-021-00	CERAMIC	0.047MF	10%	25V
C302	1-130-491-00	MYLAR	0.047MF	5%	50V
C303	1-130-491-00	MYLAR	0.047MF	5%	50V
C304	1-123-613-00	ELECT	3.3MF	20%	50V
C305	1-123-613-00	ELECT	3.3MF	20%	50V
C306	1-123-613-00	ELECT	3.3MF	20%	50V
C307	1-130-483-00	MYLAR	0.01MF	5%	50V
C308	1-161-013-00	CERAMIC	0.01MF	10%	25V
C309	1-130-483-00	MYLAR	0.01MF	5%	50V
C310	1-123-296-00	ELECT	220MF	20%	6.3V
C311	1-161-021-00	CERAMIC	0.047MF	10%	25V
C312	1-161-017-00	CERAMIC	0.022MF	10%	25V
C317	1-123-611-00	ELECT	1MF	20%	50V
C318	1-123-618-00	ELECT	22MF	20%	6.3V
C319	1-123-333-00	ELECT	100MF	20%	16V
C321	1-123-318-00	ELECT	33MF	20%	16V
C322	1-123-318-00	ELECT	33MF	20%	16V
C323	1-161-021-00	CERAMIC	0.047MF	10%	25V
C325	1-130-483-00	MYLAR	0.01MF	5%	50V
C326	1-123-306-00	ELECT	47MF	20%	10V
C327	1-123-612-00	ELECT	2.2MF	20%	50V
C328	1-131-404-00	ELECT(SOLID)	0.22MF	10%	25V
C330	1-123-617-00	ELECT	10MF	20%	16V
C331	1-161-017-00	CERAMIC	0.022MF	10%	25V
C332	1-161-016-00	CERAMIC	0.018MF	10%	25V
C333	1-161-002-00	CERAMIC	0.0012MF	10%	25V
C334	1-161-013-00	CERAMIC	0.01MF	10%	25V
C335	1-130-493-00	MYLAR	0.068MF	5%	50V
C336	1-123-613-00	ELECT	3.3MF	20%	50V
C337	1-102-978-00	CERAMIC	220PF	5%	50V
C338	1-123-296-00	ELECT	220MF	20%	6.3V
C339	1-131-369-00	TANTALUM	4.7MF	20%	16V
C340	1-131-369-00	TANTALUM	4.7MF	20%	16V
C341	1-130-488-00	MYLAR	0.027MF	5%	50V
C342	1-123-622-00	ELECT	22MF	20%	16V
C343	1-123-294-00	ELECT	47MF	20%	6.3V
C344	1-123-295-00	ELECT	100MF	20%	6.3V
C345	1-161-017-00	CERAMIC	0.022MF	10%	25V
C346	1-161-013-00	CERAMIC	0.01MF	10%	25V
C347	1-161-016-00	CERAMIC	0.018MF	10%	25V
C348	1-131-368-00	TANTALUM	3.3MF	20%	16V
C349	1-131-347-00	TANTALUM	1MF	20%	35V
C350	1-123-294-00	ELECT	47MF	20%	6.3V
C351	1-123-612-00	ELECT	2.2MF	20%	50V
C353	1-161-013-00	CERAMIC	0.01MF	10%	25V
C354	1-102-824-00	CERAMIC	470PF	5%	50V
C355	1-161-013-00	CERAMIC	0.01MF	10%	25V
C356	1-123-611-00	ELECT	1MF	20%	50V
C361	1-123-616-00	ELECT	4.7MF	20%	25V

Ref.No.	Part No.	Description			Remark
C362	1-123-616-00	ELECT	4.7MF	20%	25V
C370	1-161-021-00	CERAMIC	0.047MF	10%	25V
C371	1-161-021-00	CERAMIC	0.047MF	10%	25V
C372	1-130-486-00	MYLAR	0.018MF	5%	50V
C373	1-123-616-00	ELECT	4.7MF	20%	25V
C374	1-161-021-00	CERAMIC	0.047MF	10%	25V
C401	1-123-021-00	ELECT	0.47MF	30%	50V
C402	1-123-616-00	ELECT	4.7MF	20%	25V
C601	1-123-612-00	ELECT	2.2MF	20%	50V
C603	1-101-880-00	CERAMIC	47PF	5%	50V
C604	1-101-880-00	CERAMIC	47PF	5%	50V
C605	1-123-617-00	ELECT	10MF	20%	16V
C606	1-123-617-00	ELECT	10MF	20%	16V
C607	1-123-610-00	ELECT	0.47MF	20%	50V
C608	1-123-617-00	ELECT	10MF	20%	16V
C609	1-101-884-00	CERAMIC	56PF	5%	50V
C610	1-161-021-00	CERAMIC	0.047MF	10%	25V
C611	1-161-021-00	CERAMIC	0.047MF	10%	25V
C612	1-161-021-00	CERAMIC	0.047MF	10%	25V
C613	1-161-021-00	CERAMIC	0.047MF	10%	25V
C614	1-161-021-00	CERAMIC	0.047MF	10%	25V
C615	1-161-021-00	CERAMIC	0.047MF	10%	25V
C616	1-161-021-00	CERAMIC	0.047MF	10%	25V
C617	1-161-021-00	CERAMIC	0.047MF	10%	25V
C618	1-161-021-00	CERAMIC	0.047MF	10%	25V
C619	1-123-306-00	ELECT	47MF	20%	10V
C620	1-123-318-00	ELECT	33MF	20%	16V
C621	1-123-318-00	ELECT	33MF	20%	16V
C622	1-161-023-00	CERAMIC	0.068MF	10%	25V
C630	1-161-021-00	CERAMIC	0.047MF	10%	25V
C640	1-161-017-00	CERAMIC	0.022MF	10%	25V
C650	1-123-617-00	ELECT	10MF	20%	16V

CONNECTOR

CN001♠:	1-560-466-00	PIN, CONNECTOR 3P
CN002♠:	1-560-466-00	PIN, CONNECTOR 3P
CN003♠:	1-560-469-00	PIN, CONNECTOR 6P
CN301♠:	1-560-467-00	PIN, CONNECTOR 4P
CN302♠:	1-560-466-00	PIN, CONNECTOR 3P
CN303♠:	1-560-467-00	PIN, CONNECTOR 4P
CN304♠:	1-560-456-00	PIN, CONNECTOR 2P
CN305♠:	1-560-467-00	PIN, CONNECTOR 4P
CN306♠:	1-560-466-00	PIN, CONNECTOR 3P
CN307♠:	1-560-467-00	PIN, CONNECTOR 4P
CN308♠:	1-560-472-00	PIN, CONNECTOR 12P
CN309♠:	1-560-456-00	PIN, CONNECTOR 2P
CN310♠:	1-560-460-00	PIN, CONNECTOR 4P
CN601♠:	1-560-468-00	PIN, CONNECTOR 5P
CN602♠:	1-560-470-00	PIN, CONNECTOR 8P
CN603♠:	1-560-470-00	PIN, CONNECTOR 8P
CN604♠:	1-560-470-00	PIN, CONNECTOR 8P
CN608♠:	1-560-467-00	PIN, CONNECTOR 4P
CN609♠:	1-560-468-00	PIN, CONNECTOR 5P

Ref.No.	Part No.	Description	Remark
CN610 ♠	1-560-469-00	PIN, CONNECTOR 6P	
CN611 ♠	1-560-470-00	PIN, CONNECTOR 8P	
CN612 ♠	1-560-467-00	PIN, CONNECTOR 4P	
CN613 ♠	1-560-470-00	PIN, CONNECTOR 8P	
CN614 ♠	1-560-471-00	PIN, CONNECTOR 10P	
CN615 ♠	1-560-467-00	PIN, CONNECTOR 4P	
CN616 ♠	1-560-467-00	PIN, CONNECTOR 4P	
CN617 ♠	1-560-467-00	PIN, CONNECTOR 4P	
CN618 ♠	1-560-467-00	PIN, CONNECTOR 4P	
CN619 ♠	1-560-467-00	PIN, CONNECTOR 4P	
CN620 ♠	1-560-468-00	PIN, CONNECTOR 5P	
CN621 ♠	1-560-471-00	PIN, CONNECTOR 10P	
CN622 ♠	1-560-471-00	PIN, CONNECTOR 10P	
CN624 ♠	1-560-470-00	PIN, CONNECTOR 8P	
CN625 ♠	1-560-472-00	PIN, CONNECTOR 12P	
CN626 ♠	1-560-471-00	PIN, CONNECTOR 10P	
CN627 ♠	1-560-470-00	PIN, CONNECTOR 8P	

DIODE

Ref.No.	Part No.	Description	Remark
D001	8-719-911-06	DIODE 1SS106	
D002	8-719-911-06	DIODE 1SS106	
D003	8-719-911-19	DIODE 1SS119	
D008	8-719-911-19	DIODE 1SS119	
D009	8-719-982-04	DIODE ERB81-004	
D010	8-719-911-19	DIODE 1SS119	
D012	8-719-911-19	DIODE 1SS119	
D013	8-719-982-04	DIODE ERB81-004	
D014	8-719-911-19	DIODE 1SS119	
D015	8-719-911-19	DIODE 1SS119	
D301	8-719-911-06	DIODE 1SS106	
D302	8-719-911-19	DIODE 1SS119	
D303	8-719-982-04	DIODE ERB81-004	
D304	8-719-113-07	DIODE RD13E-B	
D306	8-719-911-19	DIODE 1SS119	
D307	8-719-911-19	DIODE 1SS119	
D308	8-719-911-06	DIODE 1SS106	
D309	8-719-911-19	DIODE 1SS119	
D310	8-719-911-19	DIODE 1SS119	
D311	8-719-911-19	DIODE 1SS119	
D312	8-719-911-19	DIODE 1SS119	
D313	8-719-911-19	DIODE 1SS119	
D314	8-719-911-19	DIODE 1SS119	
D315	8-719-911-19	DIODE 1SS119	
D316	8-719-911-19	DIODE 1SS119	
D317	8-719-911-19	DIODE 1SS119	
D318	8-719-911-19	DIODE 1SS119	
D401	8-719-911-19	DIODE 1SS119	
D402	8-719-911-19	DIODE 1SS119	
D603	8-719-911-19	DIODE 1SS119	
D604	8-719-911-06	DIODE 1SS106	

FUSE

Ref.No.	Part No.	Description	Remark
F601 ⚠	1-532-591-11	FUSE, GLASS TUBE	
F602 ⚠	1-532-624-11	FUSE, GLASS TUBE	
F603 ⚠	1-532-595-11	FUSE, GLASS TUBE	

IC

Ref.No.	Part No.	Description	Remark
IC001	8-759-103-93	IC UPC393C	
IC002	8-759-132-40	IC UPC324C	
IC003	8-759-132-40	IC UPC324C	
IC004	8-759-103-93	IC UPC393C	
IC005	8-743-980-00	IC BX-3980	
IC006	8-743-976-00	IC BX-3976	
IC301	8-751-941-00	IC CX-194AB-0	
IC302	8-741-104-30	IC BX-1043	
IC303 ⚠	8-743-983-00	IC BX-3983	
IC304	8-759-132-40	IC UPC324C	
IC305	8-759-904-94	IC TL494CN	
IC306	8-743-978-00	IC BX-3978	
IC307	8-759-240-30	IC TC4030BP	
IC308	8-759-240-53	IC TC4053BP	
IC309	8-741-103-90	IC BX-1039	
IC310	8-743-981-00	IC BX-3981	
IC311	8-741-103-80	IC BX-1038	
IC312	8-759-250-26	IC TC5026BP	
IC313	8-759-240-51	IC TC4051BP	
IC314	8-741-013-00	IC BX-1013	
IC601	8-759-905-16	IC MB8845-591M	
IC602	8-759-905-17	IC MB8845-592M	
IC603 ⚠	8-759-905-19	IC MB8845-595M	
IC604	8-759-133-90	IC UPC339C	
IC605	8-759-220-04	IC TC40H004P	
IC606	8-759-240-69	IC TC4069UBP	
IC607	8-759-240-13	IC TC4013BP	
IC608 ⚠	8-759-987-47	IC MB8747	
IC609 ⚠	8-759-987-47	IC MB8747	
IC610 =>	8-741-104-70	IC BX-1047	
IC611	8-759-900-04	IC SN74LS04N	
IC612	8-741-101-60	IC BX-1016	

COIL

Ref.No.	Part No.	Description	Remark
L001	1-408-519-00	COIL, CHOKE	
L002	1-408-519-00	COIL, CHOKE	
L003	1-408-519-00	COIL, CHOKE	
L301	1-408-518-00	COIL, CHOKE	
L302	1-459-232-00	COIL, CORE	
L601	1-408-409-00	MICRO INDUCTOR 10UH	
L602	1-408-409-00	MICRO INDUCTOR 10UH	

VOLUME BLOCK

Ref.No.	Part No.	Description	Remark
PS604 ⚠	1-532-605-11	PROTECTCR, CIRCUIT	
PS605 ⚠	1-532-679-11	PROTECTOR, CIRCUIT	

NOTE:

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SS-14

TRANSISTOR

Ref.No.	Part No.	Description	Remark
Q001	8-729-117-54	TRANSISTOR 2SA1175	
Q002 ⚠	8-729-178-54	TRANSISTOR 2SC2785	
Q003 ⚠	8-729-178-54	TRANSISTOR 2SC2785	
Q004 ⚠	8-729-178-54	TRANSISTOR 2SC2785	
Q006	8-729-178-54	TRANSISTOR 2SC2785	
Q007	8-729-178-54	TRANSISTOR 2SC2785	
Q008	8-729-117-54	TRANSISTOR 2SA1175	
Q009	8-729-178-54	TRANSISTOR 2SC2785	
Q010	8-729-178-54	TRANSISTOR 2SC2785	
Q011	8-729-178-54	TRANSISTOR 2SC2785	
Q012	8-729-178-54	TRANSISTOR 2SC2785	
Q013	8-729-178-54	TRANSISTOR 2SC2785	
Q014	8-729-178-54	TRANSISTOR 2SC2785	
Q015	8-729-178-54	TRANSISTOR 2SC2785	
Q016	8-729-117-54	TRANSISTOR 2SA1175	
Q017 ⚠	8-729-113-33	TRANSISTOR 2SB733	
Q018 ⚠	8-729-113-33	TRANSISTOR 2SB733	
Q019	8-729-178-54	TRANSISTOR 2SC2785	
Q020	8-729-178-54	TRANSISTOR 2SC2785	
Q021	8-729-178-54	TRANSISTOR 2SC2785	
Q022	8-729-178-54	TRANSISTOR 2SC2785	
Q023	8-729-178-54	TRANSISTOR 2SC2785	
Q024	8-729-117-54	TRANSISTOR 2SA1175	
Q025 ⚠	8-729-113-33	TRANSISTOR 2SB733	
Q026 ⚠	8-729-113-33	TRANSISTOR 2SB733	
Q027	8-729-178-54	TRANSISTOR 2SC2785	
Q028	8-729-178-54	TRANSISTOR 2SC2785	
Q029	8-729-178-54	TRANSISTOR 2SC2785	
Q030	8-729-117-54	TRANSISTOR 2SA1175	
Q301	8-729-178-54	TRANSISTOR 2SC2785	
Q302 ⚠	8-729-177-32	TRANSISTOR 2SD773	
Q303 ⚠	8-729-117-52	TRANSISTOR 2SA1175	
Q304	8-729-113-33	TRANSISTOR 2SB733-4	
Q305	8-729-178-54	TRANSISTOR 2SC2785	
Q307	8-729-178-54	TRANSISTOR 2SC2785	
Q308	8-729-178-54	TRANSISTOR 2SC2785	
Q309 ⚠	8-729-117-54	TRANSISTOR 2SA1175	
Q310	8-729-178-54	TRANSISTOR 2SC2785	
Q311	8-729-178-54	TRANSISTOR 2SC2785	
Q314	8-729-178-54	TRANSISTOR 2SC2785	
Q315	8-729-178-54	TRANSISTOR 2SC2785	
Q317	8-729-178-54	TRANSISTOR 2SC2785	
Q318	8-729-117-54	TRANSISTOR 2SA1175	
Q320	8-729-178-54	TRANSISTOR 2SC2785	
Q321	8-729-117-54	TRANSISTOR 2SA1175	
Q322	8-729-117-54	TRANSISTOR 2SA1175	
Q324	8-729-178-54	TRANSISTOR 2SC2785	
Q325	8-729-178-54	TRANSISTOR 2SC2785	
Q326	8-729-117-54	TRANSISTOR 2SA1175	
Q327	8-729-178-54	TRANSISTOR 2SC2785	
Q328	8-729-178-54	TRANSISTOR 2SC2785	
Q401	8-729-178-54	TRANSISTOR 2SC2785	
Q601	8-729-178-54	TRANSISTOR 2SC2785	
Q602	8-729-178-54	TRANSISTOR 2SC2785	
Q603	8-729-178-54	TRANSISTOR 2SC2785	
Q604 ⚠	8-729-177-23	TRANSISTOR 2SB772	
Q605	8-729-178-54	TRANSISTOR 2SC2785	
Q606	8-729-178-54	TRANSISTOR 2SC2785	
Q607	8-729-178-54	TRANSISTOR 2SC2785	
Q613	8-729-178-54	TRANSISTOR 2SC2785	
Q614	8-729-178-54	TRANSISTOR 2SC2785	
Q615	8-729-178-54	TRANSISTOR 2SC2785	
Q616	8-729-178-54	TRANSISTOR 2SC2785	
Q617	8-729-178-54	TRANSISTOR 2SC2785	
Q618	8-729-178-54	TRANSISTOR 2SC2785	
Q620	8-729-178-54	TRANSISTOR 2SC2785	
Q621	8-729-178-54	TRANSISTOR 2SC2785	
Q624	8-729-117-54	TRANSISTOR 2SA1175	
Q625	8-729-117-54	TRANSISTOR 2SA1175	
Q626	8-729-117-54	TRANSISTOR 2SA1175	
Q640	8-729-178-54	TRANSISTOR 2SC2785	

RESISTOR

Ref.No.	Part No.	Description				Remark
R011	1-246-803-00	CARBON	47K		1/8W	
R014	1-247-055-00	CARBON	300K		1/8W	
R017	1-246-803-00	CARBON	47K		1/8W	
R018	1-246-859-00	CARBON	20K		1/8W	
R020	1-246-799-00	CARBON	22K		1/8W	
R021	1-246-803-00	CARBON	47K		1/8W	
R022	1-246-794-00	CARBON	8.2K		1/8W	
R023	1-246-785-00	CARBON	1.5K		1/8W	
R030	1-246-803-00	CARBON	47K		1/8W	
R031	1-246-791-00	CARBON	4.7K		1/8W	
R032	1-246-803-00	CARBON	47K		1/8W	
R035	1-246-803-00	CARBON	47K		1/8W	
R037	1-246-783-00	CARBON	1K		1/8W	
R038	1-246-799-00	CARBON	22K		1/8W	
R041	1-246-799-00	CARBON	22K		1/8W	
R042	1-246-799-00	CARBON	22K		1/8W	
R043	1-246-795-00	CARBON	10K		1/8W	
R044	1-246-803-00	CARBON	47K		1/8W	
R045	1-246-449-00	CARBON	100	5%	1/4W	
R046	1-246-457-00	CARBON	220	5%	1/4W	
R055	1-244-861-00	CARBON	330	5%	1/2W	
R056	1-246-783-00	CARBON	1K		1/8W	
R057 ⚠	1-217-612-00	WIREWOUND	0.1		2W	
R058	1-246-783-00	CARBON	1K		1/8W	
R060	1-246-860-00	CARBON	24K		1/8W	
R064	1-247-049-00	CARBON	470K		1/8W	
R068	1-246-795-00	CARBON	10K		1/8W	
R071	1-247-057-00	CARBON	430K		1/8W	
R073	1-246-795-00	CARBON	10K		1/8W	
R080	1-246-783-00	CARBON	1K		1/8W	
R081	1-246-807-00	CARBON	100K		1/8W	

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Ref.No.	Part No.	Description				Remark
R082	1-247-049-00	CARBON	470K		1/8W	
R083	1-246-791-00	CARBON	4.7K		1/8W	
R084	1-246-791-00	CARBON	4.7K		1/8W	
R085	1-246-799-00	CARBON	22K		1/8W	
R089	1-246-795-00	CARBON	10K		1/8W	
R090	1-247-049-00	CARBON	470K		1/8W	
R091	1-246-807-00	CARBON	100K		1/8W	
R093	1-246-803-00	CARBON	47K		1/8W	
R094	1-246-795-00	CARBON	10K		1/8W	
R095	1-246-449-00	CARBON	100	5%	1/4W	
R096	1-246-457-00	CARBON	220	5%	1/4W	
R099	1-246-786-00	CARBON	1.8K		1/8W	
R103	1-244-861-00	CARBON	330	5%	1/2W	
R106	1-246-783-00	CARBON	1K		1/8W	
R108	1-246-803-00	CARBON	47K		1/8W	
R110	1-246-811-00	CARBON	220K		1/8W	
R111	1-246-803-00	CARBON	47K		1/8W	
R113	1-246-803-00	CARBON	47K		1/8W	
R114	1-246-803-00	CARBON	47K		1/8W	
R115	1-246-801-00	CARBON	33K		1/8W	
R116	1-246-847-00	CARBON	2K		1/8W	
R117	1-246-799-00	CARBON	22K		1/8W	
R118	1-246-799-00	CARBON	22K		1/8W	
R301	1-246-799-00	CARBON	22K		1/8W	
R302	1-246-793-00	CARBON	6.8K		1/8W	
R303	1-246-797-00	CARBON	15K		1/8W	
R304	1-246-795-00	CARBON	10K		1/8W	
R310	1-246-795-00	CARBON	10K		1/8W	
R311	1-246-795-00	CARBON	10K		1/8W	
R315	1-246-791-00	CARBON	4.7K		1/8W	
R316	1-246-805-00	CARBON	68K		1/8W	
R317	1-246-803-00	CARBON	47K		1/8W	
R318	1-246-852-00	CARBON	5.1K		1/8W	
R321	1-246-783-00	CARBON	1K		1/8W	
R322 ⚠.	1-212-356-00	METAL OXIDE	0.47	5%	1W	F
R323	1-246-799-00	CARBON	22K		1/8W	
R327	1-246-797-00	CARBON	15K		1/8W	
R329	1-246-432-00	CARBON	20	5%	1/4W	
R330	1-246-788-00	CARBON	2.7K		1/8W	
R331	1-246-809-00	CARBON	150K		1/8W	
R334	1-246-801-00	CARBON	33K		1/8W	
R337	1-246-801-00	CARBON	33K		1/8W	
R338	1-246-809-00	CARBON	150K		1/8W	
R339	1-246-810-00	CARBON	180K		1/8W	
R340	1-246-788-00	CARBON	2.7K		1/8W	
R342	1-246-801-00	CARBON	33K		1/8W	
R344	1-246-801-00	CARBON	33K		1/8W	
R345	1-246-801-00	CARBON	33K		1/8W	
R346	1-246-807-00	CARBON	100K		1/8W	
R347	1-246-806-00	CARBON	82K		1/8W	
R348	1-246-801-00	CARBON	33K		1/8W	
R354	1-246-795-00	CARBON	10K		1/8W	
R355	1-246-795-00	CARBON	10K		1/8W	
R358	1-246-795-00	CARBON	10K		1/8W	
R363	1-246-809-00	CARBON	150K		1/8W	
R364	1-246-801-00	CARBON	33K		1/8W	
R365	1-246-866-00	CARBON	75K		1/8W	
R366	1-246-859-00	CARBON	20K		1/8W	
R367	1-246-799-00	CARBON	22K		1/8W	
R368	1-246-804-00	CARBON	56K		1/8W	
R369	1-246-800-00	CARBON	27K		1/8W	
R370	1-246-802-00	CARBON	39K		1/8W	
R371	1-246-795-00	CARBON	10K		1/8W	
R373	1-246-783-00	CARBON	1K		1/8W	
R374	1-246-804-00	CARBON	56K		1/8W	
R375	1-246-795-00	CARBON	10K		1/8W	
R376	1-246-795-00	CARBON	10K		1/8W	
R377	1-246-795-00	CARBON	10K		1/8W	
R378	1-246-799-00	CARBON	22K		1/8W	
R381	1-246-783-00	CARBON	1K		1/8W	
R382	1-246-795-00	CARBON	10K		1/8W	
R383	1-246-803-00	CARBON	47K		1/8W	
R387	1-246-795-00	CARBON	10K		1/8W	
R390	1-246-851-00	CARBON	4.3K		1/8W	
R391	1-246-803-00	CARBON	47K		1/8W	
R392	1-246-799-00	CARBON	22K		1/8W	
R393	1-246-799-00	CARBON	22K		1/8W	
R394	1-246-795-00	CARBON	10K		1/8W	
R395	1-246-804-00	CARBON	56K		1/8W	
R396	1-246-810-00	CARBON	180K	5%	1/8W	
R397	1-246-801-00	CARBON	33K		1/8W	
R399	1-246-837-00	CARBON	300		1/8W	
R400	1-246-798-00	CARBON	18K		1/8W	
R401	1-246-457-00	CARBON	220	5%	1/4W	
R404	1-246-801-00	CARBON	33K		1/8W	
R407	1-246-803-00	CARBON	47K		1/8W	
R411	1-246-803-00	CARBON	47K		1/8W	
R412	1-246-795-00	CARBON	10K		1/8W	
R414	1-246-783-00	CARBON	1K		1/8W	
R415	1-246-803-00	CARBON	47K		1/8W	
R416	1-246-799-00	CARBON	22K		1/8W	
R451	1-247-047-00	CARBON	330K		1/8W	
R452	1-246-797-00	CARBON	15K		1/8W	
R453	1-247-054-00	CARBON	240K		1/8W	
R460	1-246-795-00	CARBON	10K		1/8W	
R468	1-246-791-00	CARBON	4.7K		1/8W	
R473	1-246-803-00	CARBON	47K		1/8W	
R474	1-246-787-00	CARBON	2.2K		1/8W	
R479	1-246-807-00	CARBON	100K		1/8W	
R480	1-246-805-00	CARBON	68K		1/8W	
R481	1-246-805-00	CARBON	68K		1/8W	
R482	1-246-805-00	CARBON	68K		1/8W	
R483	1-246-801-00	CARBON	33K		1/8W	
R484	1-246-791-00	CARBON	4.7K		1/8W	
R487	1-246-795-00	CARBON	10K		1/8W	
R488	1-246-800-00	CARBON	27K		1/8W	
R489	1-246-845-00	CARBON	1.3K		1/8W	

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Ref.No.	Part No.	Description				Remark
R490	1-246-845-00	CARBON	1.3K		1/8W	
R491	1-246-845-00	CARBON	1.3K		1/8W	
R492	1-246-797-00	CARBON	15K		1/8W	
R495 ⚠.	1-246-444-00	CARBON	62	5%	1/4W	
R496	1-246-779-00	CARBON	470		1/8W	
R498	1-246-803-00	CARBON	47K		1/8W	
R499	1-246-791-00	CARBON	4.7K		1/8W	
R501	1-246-850-00	CARBON	3.6K		1/8W	
R502	1-246-852-00	CARBON	5.1K		1/8W	
R503 ⚠.	1-246-759-00	CARBON	10		1/8W	
R551	1-246-792-00	CARBON	5.6K		1/8W	
R552	1-246-792-00	CARBON	5.6K		1/8W	
R553	1-247-050-00	CARBON	560K		1/8W	
R601	1-246-799-00	CARBON	22K		1/8W	
R602	1-246-807-00	CARBON	100K		1/8W	
R603	1-246-799-00	CARBON	22K		1/8W	
R605	1-246-807-00	CARBON	100K		1/8W	
R606	1-246-803-00	CARBON	47K		1/8W	
R607	1-246-791-00	CARBON	4.7K		1/8W	
R608	1-246-807-00	CARBON	100K		1/8W	
R609	1-246-469-00	CARBON	680	5%	1/4W	
R610	1-246-803-00	CARBON	47K		1/8W	
R611	1-246-807-00	CARBON	100K		1/8W	
R612	1-246-807-00	CARBON	100K		1/8W	
R613	1-246-803-00	CARBON	47K		1/8W	
R615	1-246-783-00	CARBON	1K		1/8W	
R616	1-246-859-00	CARBON	20K		1/8W	
R617	1-246-795-00	CARBON	10K		1/8W	
R618	1-246-791-00	CARBON	4.7K		1/8W	
R627	1-246-791-00	CARBON	4.7K		1/8W	
R628	1-246-791-00	CARBON	4.7K		1/8W	
R629	1-246-791-00	CARBON	4.7K		1/8W	
R630	1-246-791-00	CARBON	4.7K		1/8W	
R631	1-246-791-00	CARBON	4.7K		1/8W	
R632	1-246-791-00	CARBON	4.7K		1/8W	
R633	1-246-803-00	CARBON	47K		1/8W	
R634	1-246-803-00	CARBON	47K		1/8W	
R635	1-246-803-00	CARBON	47K		1/8W	
R640	1-247-049-00	CARBON	470K		1/8W	
R645	1-246-795-00	CARBON	10K		1/8W	
R648	1-246-791-00	CARBON	4.7K		1/8W	
R649	1-246-791-00	CARBON	4.7K		1/8W	
R650	1-246-791-00	CARBON	4.7K		1/8W	
R660	1-246-803-00	CARBON	47K		1/8W	
R661	1-246-803-00	CARBON	47K		1/8W	
R663	1-246-801-00	CARBON	33K		1/8W	
R690	1-246-783-00	CARBON	1K		1/8W	
R691	1-246-803-00	CARBON	47K		1/8W	
R693	1-246-783-00	CARBON	1K		1/8W	
R694	1-246-795-00	CARBON	10K		1/8W	
R695	1-246-795-00	CARBON	10K		1/8W	
R698	1-246-803-00	CARBON	47K	5%	1/8W	
R699	1-246-807-00	CARBON	100K		1/8W	
R703	1-246-751-00	CARBON	2.2		1/8W	

NOTE:

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

VARIABLE RESISTOR

Ref.No.	Part No.	Description
RV001	1-226-774-00	RES, ADJ, METAL GLAZE 47K
RV002	1-226-773-00	RES, ADJ, METAL GLAZE 22K
RV301	1-226-753-00	RES, ADJ, SOLID 47K
RV302	1-224-254-XX	RES, ADJ, METAL GLAZE 47K
RV303	1-226-771-00	RES, ADJ, METAL GLAZE 1K
RV304	1-226-753-00	RES, ADJ, SOLID 47K
RV305	1-226-753-00	RES, ADJ, SOLID 47K
RV306	1-226-774-00	RES, ADJ, METAL GLAZE 47K
RV307	1-226-703-00	RES, ADJ, METAL GLAZE 10K
RV308	1-226-703-00	RES, ADJ, METAL GLAZE 10K
RV309	1-226-703-00	RES, ADJ, METAL GLAZE 10K
RV310	1-226-703-00	RES, ADJ, METAL GLAZE 10K
RV314	1-226-753-00	RES, ADJ, SOLID 47K
RV315	1-226-701-00	RES, ADJ, METAL GLAZE 220
RV316	1-226-701-00	RES, ADJ, METAL GLAZE 220
RV317	1-226-753-00	RES, ADJ, SOLID 47K

THERMISTOR

Ref.No.	Part No.	Description
TH001	1-800-200-00	THERMISTOR S-3K
TH002	1-800-202-00	THERMISTOR S-10K
TH301	1-800-200-00	THERMISTOR S-3K

CRYSTAL

Ref.No.	Part No.	Description
X601	1-527-726-00	VIBRATOR, CRYSTAL

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♠:1-607-271-00 TF-2 BOARD

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CAPACITOR

Ref.No.	Part No.	Description			
C901	1-123-617-00	ELECT	10MF	20%	16V
C902	1-123-617-00	ELECT	10MF	20%	16V
C903	1-123-617-00	ELECT	10MF	20%	16V

DIODE

Ref.No.	Part No.	Description
D901	8-719-911-19	DIODE 1SS119
D902	8-719-911-19	DIODE 1SS119
D903	8-719-911-19	DIODE 1SS119
D904	8-719-911-19	DIODE 1SS119
D905	8-719-911-19	DIODE 1SS119

IC

Ref.No.	Part No.	Description
IC901	8-759-133-90	IC UPC339C

TRANSISTOR

Ref.No.	Part No.	Description
Q901	8-729-178-54	TRANSISTOR 2SC2785
Q902	8-729-178-54	TRANSISTOR 2SC2785
Q903	8-729-117-54	TRANSISTOR 2SA1175
Q904	8-729-117-54	TRANSISTOR 2SA1175
Q905	8-729-117-54	TRANSISTOR 2SA1175

Ref.No.	Part No.	Description			Remark
Q906	8-729-117-54	TRANSISTOR 2SA1175			

RESISTOR

R901	1-246-795-00	CARBON	10K	1/8W	
R902	1-246-807-00	CARBON	100K	1/8W	
R903	1-246-783-00	CARBON	1K	1/8W	
R904	1-246-865-00	CARBON	62K	1/8W	
R905	1-246-803-00	CARBON	47K	1/8W	
R906	1-246-803-00	CARBON	47K	1/8W	
R907	1-246-803-00	CARBON	47K	1/8W	
R908	1-246-803-00	CARBON	47K	1/8W	
R909	1-246-803-00	CARBON	47K	1/8W	
R910	1-246-803-00	CARBON	47K	1/8W	
R911	1-246-803-00	CARBON	47K	1/8W	
R912	1-246-803-00	CARBON	47K	1/8W	
R913	1-246-810-00	CARBON	180K	1/8W	
R914	1-246-803-00	CARBON	47K	1/8W	
R915	1-246-803-00	CARBON	47K	1/8W	
R916	1-246-803-00	CARBON	47K	1/8W	
R917	1-246-803-00	CARBON	47K	1/8W	
R918	1-246-775-00	CARBON	220	1/8W	

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♠:1-608-636-00 MB-6 BOARD
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CAPACITOR

C329	1-161-013-00	CERAMIC	0.01MF	10%	25V
C802	1-123-611-00	ELECT	1MF	20%	50V

DIODE

D319	8-719-911-19	DIODE 1SS119

TRANSISTOR

Q803	8-729-117-54	TRANSISTOR 2SA1175

RESISTOR

R395	1-246-801-00	CARBON	33K	1/8W
R805	1-246-807-00	CARBON	100K	1/8W

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♠:A-6717-318-A FU-11 BOARD, COMPLETE
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♠:3-674-372-00 HOLDER (A), LED

CAPACITOR

Ref.No.	Part No.	Description			Remark
C001	1-161-013-00	CERAMIC	0.01MF	10%	25V
C002	1-123-617-00	ELECT	10MF	20%	16V
C003	1-102-116-00	CERAMIC	680PF	10%	50V
C004	1-123-645-00	ELECT	33MF	20%	10V
C005	1-123-645-00	ELECT	33MF	20%	10V
C081	1-123-616-00	ELECT	4.7MF	20%	25V
C082	1-123-616-00	ELECT	4.7MF	20%	25V
C083	1-123-645-00	ELECT	33MF	20%	10V
C084	1-123-645-00	ELECT	33MF	20%	10V

DIODE

D001	8-719-812-30	DIODE TL0123
D002	8-719-812-31	DIODE TLR123
D003	8-719-812-33	DIODE TLG123A
D004	8-719-812-32	DIODE TLY123
D005	8-719-812-32	DIODE TLY123
D006	8-719-812-32	DIODE TLY123
D008	8-719-812-31	DIODE TLR123
D015	8-719-812-33	DIODE TLG123A
D016	8-719-812-33	DIODE TLG123A
D017	8-719-812-33	DIODE TLG123A
D018	8-719-812-33	DIODE TLG123A
D019	8-719-812-33	DIODE TLG123A
D020	8-719-812-33	DIODE TLG123A
D021	8-719-812-33	DIODE TLG123A
D022	8-719-812-33	DIODE TLG123A
D023	8-719-812-33	DIODE TLG123A
D024	8-719-812-32	DIODE TLY123
D026	8-719-812-32	DIODE TLY123
D027	8-719-812-32	DIODE TLY123
D028	8-719-812-32	DIODE TLY123
D029	8-719-911-06	DIODE 1SS106
D030	8-719-911-06	DIODE 1SS106
D031	8-719-911-06	DIODE 1SS106
D032	8-719-911-19	DIODE 1SS119
D034	8-719-911-19	DIODE 1SS119
D035	8-719-911-19	DIODE 1SS119
D036	8-719-911-19	DIODE 1SS119
D037	8-719-911-19	DIODE 1SS119
D055	8-719-113-07	DIODE RD13E-B
D056	8-719-907-29	DIODE EQA11-09A
D057	8-719-907-29	DIODE EQA11-09A

IC

IC001	8-759-987-58	IC MB8758
IC081	8-759-745-60	IC NJM4560D

TRANSISTOR

Q001	8-729-902-11	TRANSISTOR 2SC2021
Q002	8-729-178-54	TRANSISTOR 2SC2785
Q003	8-729-178-54	TRANSISTOR 2SC2785
Q004	8-729-178-54	TRANSISTOR 2SC2785
Q005	8-729-178-54	TRANSISTOR 2SC2785
Q006	8-729-178-54	TRANSISTOR 2SC2785

Ref.No.	Part No.	Description			Remark
Q007	8-729-902-11	TRANSISTOR 2SC2021			
Q008	8-729-178-54	TRANSISTOR 2SC2785			
Q010	8-729-902-11	TRANSISTOR 2SC2021			
Q011	8-729-178-54	TRANSISTOR 2SC2785			
Q012	8-729-178-54	TRANSISTOR 2SC2785			
Q013	8-729-178-54	TRANSISTOR 2SC2785			
Q014	8-729-117-54	TRANSISTOR 2SA1175			
Q015	8-729-902-11	TRANSISTOR 2SC2021			
Q016	8-729-902-11	TRANSISTOR 2SC2021			

RESISTOR

Ref.No.	Part No.	Description			Remark
R001	1-246-776-00	CARBON	270	1/8W	
R002	1-246-776-00	CARBON	270	1/8W	
R003	1-246-773-00	CARBON	150	1/8W	
R005	1-246-776-00	CARBON	270	1/8W	
R006	1-246-795-00	CARBON	10K	1/8W	
R007	1-246-795-00	CARBON	10K	1/8W	
R008	1-246-795-00	CARBON	10K	1/8W	
R015	1-246-773-00	CARBON	150	1/8W	
R016	1-246-773-00	CARBON	150	1/8W	
R018	1-246-776-00	CARBON	270	1/8W	
R019	1-246-773-00	CARBON	150	1/8W	
R020	1-246-773-00	CARBON	150	1/8W	
R022	1-246-799-00	CARBON	22K	1/8W	
R023	1-246-799-00	CARBON	22K	1/8W	
R024	1-246-807-00	CARBON	100K	1/8W	
R025	1-246-799-00	CARBON	22K	1/8W	
R026	1-246-799-00	CARBON	22K	1/8W	
R027	1-246-807-00	CARBON	100K	1/8W	
R028	1-246-799-00	CARBON	22K	1/8W	
R029	1-246-799-00	CARBON	22K	1/8W	
R030	1-246-799-00	CARBON	22K	1/8W	
R031	1-246-807-00	CARBON	100K	1/8W	
R032	1-246-799-00	CARBON	22K	1/8W	
R033	1-246-799-00	CARBON	22K	1/8W	
R034	1-246-807-00	CARBON	100K	1/8W	
R035	1-246-799-00	CARBON	22K	1/8W	
R036	1-246-799-00	CARBON	22K	1/8W	
R037	1-246-799-00	CARBON	22K	1/8W	
R038	1-246-799-00	CARBON	22K	1/8W	
R039	1-246-807-00	CARBON	100K	1/8W	
R040	1-246-799-00	CARBON	22K	1/8W	
R041	1-246-799-00	CARBON	22K	1/8W	
R042	1-246-799-00	CARBON	22K	1/8W	
R081	1-246-837-00	CARBON	300	1/8W	
R082	1-246-796-00	CARBON	12K	1/8W	
R083	1-246-864-00	CARBON	51K	1/8W	
R084	1-246-775-00	CARBON	220	1/8W	
R086	1-246-837-00	CARBON	300	1/8W	
R087	1-246-796-00	CARBON	12K	1/8W	
R088	1-246-864-00	CARBON	51K	1/8W	
R089	1-246-775-00	CARBON	220	1/8W	
R091	1-246-771-00	CARBON	100	1/8W	
R092	1-246-771-00	CARBON	100	1/8W	

VARIABLE RESISTOR

Ref.No.	Part No.	Description	Remark
RV001	1-228-988-00	RES, VAR, CARBON 10K/10K	

SWITCH

Ref.No.	Part No.	Description	Remark
S001	1-553-997-00	SWITCH, KEY BOARD	
S002	1-553-997-00	SWITCH, KEY BOARD	
S003	1-553-997-00	SWITCH, KEY BOARD	
S004	1-553-997-00	SWITCH, KEY BOARD	
S005	1-553-997-00	SWITCH, KEY BOARD	
S006	1-553-997-00	SWITCH, KEY BOARD	
S007	1-553-997-00	SWITCH, KEY BOARD	
S008	1-553-997-00	SWITCH, KEY BOARD	
S009	1-553-997-00	SWITCH, KEY BOARD	
S010	1-553-997-00	SWITCH, KEY BOARD	
S011	1-553-997-00	SWITCH, KEY BOARD	
S012	1-553-997-00	SWITCH, KEY BOARD	
S013	1-553-997-00	SWITCH, KEY BOARD	
S014	1-553-997-00	SWITCH, KEY BOARD	
S016	1-553-997-00	SWITCH, KEY BOARD	
S017	1-553-997-00	SWITCH, KEY BOARD	
S018	1-553-997-00	SWITCH, KEY BOARD	
S019	1-553-997-00	SWITCH, KEY BOARD	
S020	1-553-997-00	SWITCH, KEY BOARD	
S021	1-553-997-00	SWITCH, KEY BOARD	
S022	1-553-997-00	SWITCH, KEY BOARD	
S023	1-553-997-00	SWITCH, KEY BOARD	

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♠:A-6717-321-A RR-1 BOARD, COMPLETE
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Part No.	Description
3-564-542-00	WASHER, FIBER
♠:3-670-059-00	BRACKET (RIGHT), RR
♠:3-670-060-00	BRACKET (LEFT), RR
♠:3-671-850-00	CASE, SHIELD, RR-1

CAPACITOR

Ref.No.	Part No.	Description			
C001	1-123-613-00	ELECT	3.3MF	20%	50V
C002	1-161-021-00	CERAMIC	0.047MF	10%	25V
C003	1-102-973-00	CERAMIC	100PF	5%	50V
C201	1-161-021-00	CERAMIC	0.047MF	10%	25V
C202	1-102-824-00	CERAMIC	470PF	5%	50V
C203	1-102-111-00	CERAMIC	270PF	10%	50V
C205	1-123-617-00	ELECT	10MF	20%	16V
C206	1-123-821-00	ELECT	47MF	20%	16V
C207	1-161-039-00	CERAMIC	0.001MF	10%	25V
C208	1-161-039-00	CERAMIC	0.001MF	10%	25V
C209	1-102-112-00	CERAMIC	330PF	10%	50V
C301	1-123-839-00	ELECT	1000MF	20%	16V
C302	1-123-820-00	ELECT	33MF	20%	16V
C303	1-123-611-00	ELECT	1MF	20%	50V

Ref.No.	Part No.	Description	Remark
		CONNECTOR	
CN101♠:	1-560-463-00	PIN, CONNECTOR 8P	
CN103♠:	1-560-459-00	PIN, CONNECTOR 3P	
CN201♠:	1-560-466-00	PIN, CONNECTOR 3P	
CN202♠:	1-560-467-00	PIN, CONNECTOR 4P	
CN203♠:	1-560-470-00	PIN, CONNECTOR 8P	
CN301♠:	1-560-471-00	PIN, CONNECTOR 10P	
CN302♠:	1-560-456-00	PIN, CONNECTOR 2P	
CN303♠:	1-560-470-00	PIN, CONNECTOR 8P	
		DIODE	
D001	8-719-911-19	DIODE 1SS119	
D201	8-719-151-07	DIODE RD5.1E-B	
D301	8-719-911-19	DIODE 1SS119	
D302	8-719-911-19	DIODE 1SS119	
D305	8-719-200-02	DIODE 10E-2	
D306	8-719-200-02	DIODE 10E-2	
D307	8-719-200-02	DIODE 10E-2	
D308	8-719-200-02	DIODE 10E-2	
D309	8-719-200-02	DIODE 10E-2	
D310	8-719-200-02	DIODE 10E-2	
D311	8-719-200-02	DIODE 10E-2	
D312	8-719-200-02	DIODE 10E-2	
D313	8-719-200-02	DIODE 10E-2	
D314	8-719-200-02	DIODE 10E-2	
D315	8-719-200-02	DIODE 10E-2	
D316	8-719-200-02	DIODE 10E-2	
D317	8-719-911-19	DIODE 1SS119	
D318	8-719-911-19	DIODE 1SS119	
D319	8-719-200-02	DIODE 10E-2	
		IC	
IC001	8-759-103-93	IC UPC393C	
IC201	8-759-115-17	IC UPD651G-517	
		TRANSISTOR	
Q103	8-729-178-54	TRANSISTOR 2SC2785	
Q108	8-729-900-33	TRANSISTOR DTC144F	
Q203	8-729-178-54	TRANSISTOR 2SC2785	
Q204	8-729-178-54	TRANSISTOR 2SC2785	
Q301 ⚠	8-729-177-32	TRANSISTOR 2SD773	
Q302 ⚠	8-729-177-32	TRANSISTOR 2SD773	
Q303 ⚠	8-729-113-32	TRANSISTOR 2SB733	
Q304 ⚠	8-729-113-32	TRANSISTOR 2SB733	
Q305 ⚠	8-729-177-32	TRANSISTOR 2SD773	
Q306 ⚠	8-729-177-32	TRANSISTOR 2SD773	
Q307 ⚠	8-729-113-32	TRANSISTOR 2SB733	
Q308 ⚠	8-729-113-32	TRANSISTOR 2SB733	
Q309	8-729-116-42	TRANSISTOR 2SD1164	
Q310	8-729-116-42	TRANSISTOR 2SD1164	
Q311	8-729-116-42	TRANSISTOR 2SD1164	
Q312	8-729-116-42	TRANSISTOR 2SD1164	
Q313	8-729-178-54	TRANSISTOR 2SC2785	
Q314	8-729-178-54	TRANSISTOR 2SC2785	
Q315	8-729-178-54	TRANSISTOR 2SC2785	
Q316	8-729-178-54	TRANSISTOR 2SC2785	
Q332	8-729-117-54	TRANSISTOR 2SA1175	
		RESISTOR	
R001	1-246-799-00	CARBON 22K 1/8W	
R002	1-246-807-00	CARBON 100K 1/8W	
R003	1-246-795-00	CARBON 10K 1/8W	
R004	1-246-788-00	CARBON 2.7K 1/8W	
R005	1-246-795-00	CARBON 10K 1/8W	
R006	1-246-805-00	CARBON 68K 1/8W	
R132	1-246-795-00	CARBON 10K 1/8W	
R201	1-246-781-00	CARBON 680 1/8W	
R203	1-246-805-00	CARBON 68K 1/8W	
R204	1-246-795-00	CARBON 10K 1/8W	
R205	1-247-049-00	CARBON 470K 1/8W	
R208	1-246-799-00	CARBON 22K 1/8W	
R209	1-246-795-00	CARBON 10K 1/8W	
R213	1-246-795-00	CARBON 10K 1/8W	
R214	1-246-795-00	CARBON 10K 1/8W	
R215	1-246-795-00	CARBON 10K 1/8W	
R216	1-246-795-00	CARBON 10K 1/8W	
R217	1-246-795-00	CARBON 10K 5% 1/8W	
R218	1-246-807-00	CARBON 100K 1/8W	
R219	1-246-795-00	CARBON 10K 1/8W	
R220	1-246-795-00	CARBON 10K 1/8W	
R223	1-246-795-00	CARBON 10K 1/8W	
R224	1-246-795-00	CARBON 10K 1/8W	
R225	1-246-807-00	CARBON 100K 1/8W	
R226	1-246-795-00	CARBON 10K 1/8W	
R227	1-246-789-00	CARBON 3.3K 1/8W	
R228 ⚠	1-246-780-00	CARBON 560 1/8W	
R229	1-246-795-00	CARBON 10K 1/8W	
R230	1-246-783-00	CARBON 1K 1/8W	
R231	1-246-783-00	CARBON 1K 1/8W	
R232	1-246-807-00	CARBON 100K 1/8W	
R234	1-246-795-00	CARBON 10K 1/8W	
R235	1-246-776-00	CARBON 270 1/8W	
R240	1-246-787-00	CARBON 2.2K 1/8W	
R301	1-246-783-00	CARBON 1K 1/8W	
R302	1-246-783-00	CARBON 1K 1/8W	
R303	1-246-789-00	CARBON 3.3K 1/8W	
R304	1-246-789-00	CARBON 3.3K 1/8W	
R305	1-246-843-00	CARBON 910 1/8W	
R306	1-246-843-00	CARBON 910 1/8W	
R307	1-246-783-00	CARBON 1K 1/8W	
R308	1-246-783-00	CARBON 1K 1/8W	
R309	1-246-789-00	CARBON 3.3K 1/8W	
R310	1-246-789-00	CARBON 3.3K 1/8W	
R311	1-246-843-00	CARBON 910 1/8W	
R312	1-246-843-00	CARBON 910 1/8W	

NOTE:

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No.	Part No.	Description				Remark
R313	1-246-783-00	CARBON	1K		1/8W	
R314	1-246-783-00	CARBON	1K		1/8W	
R315	1-246-783-00	CARBON	1K		1/8W	
R316	1-246-783-00	CARBON	1K		1/8W	
R317	1-246-789-00	CARBON	3.3K		1/8W	
R320	1-246-787-00	CARBON	2.2K		1/8W	
R321	1-246-807-00	CARBON	100K		1/8W	
R322	1-246-807-00	CARBON	100K		1/8W	
R323	1-246-787-00	CARBON	2.2K		1/8W	
R324	1-246-787-00	CARBON	2.2K		1/8W	
R325	1-246-807-00	CARBON	100K		1/8W	
R326	1-246-807-00	CARBON	100K		1/8W	
R327	1-246-787-00	CARBON	2.2K		1/8W	
R328	1-246-793-00	CARBON	6.8K		1/8W	
R329	1-246-791-00	CARBON	4.7K		1/8W	
R330	1-246-791-00	CARBON	4.7K		1/8W	
R331	1-246-791-00	CARBON	4.7K		1/8W	
R332	1-246-797-00	CARBON	15K		1/8W	
R333 ⚠	1-247-587-00	CARBON	0.47	5%	1/4W	
R334	1-246-795-00	CARBON	10K		1/8W	
R335	1-206-640-00	METAL OXIDE	100	5%	2W	F
R336	1-206-640-00	METAL OXIDE	100	5%	2W	F
R337	1-246-794-00	CARBON	8.2K		1/8W	
R401	1-246-513-00	CARBON	47K	5%	1/4W	

CRYSTAL

X201	1-527-532-31	OSCILLATOR, CERAMIC

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♠:A-6721-164-A	TU-33 BOARD, COMPLETE *********************
⚠.1-463-399-11	TUNER (BT-866)
⚠.1-464-151-12	UNIT, COLOR RF (RF-7W(M))
♠:1-555-110-00	CABLE, PIN
♠:1-556-250-00	CABLE, PIN (WITH EYELET)
♠:1-556-790-00	CABLE, PIN (WITH EYELET)
♠:3-671-847-00	CASE (3) (MAIN), SHIELD, TU
♠:3-671-848-00	LID, CASE (3), SHIELD, TU
♠:3-671-849-00	LID, REAR, CASE (3), SHIELD, TU
♠:3-679-959-00	LID, UPPER, SHIELD CASE, ECL
♠:3-679-960-00	LID, BOTTOM, SHIELD CASE, ECL
♠:3-679-961-00	LID, SHIELD CASE, TU
♠:3-679-962-00	CASE (MAIN), SHIELD, TU
♠:3-679-963-00	LID, REAR, SHIELD CASE, TU
♠:3-679-964-00	LID, SHIELD CASE
♠:3-679-965-00	LID, REAR, SHIELD CASE
♠:3-679-966-00	CASE (MAIN), SHIELD, ECL
♠:3-679-967-00	CASE (MAIN), SHIELD

BATTERY

BA001	1-528-074-00	BATTERY, NICKEL CADMIUM

NOTE:

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No.	Part No.	Description				Remark
		CAPACITOR				
C001	1-102-074-00	CERAMIC	0.001MF	10%	50V	
C002	1-123-358-00	ELECT	33MF	20%	50V	
C003	1-102-074-00	CERAMIC	0.001MF	10%	50V	
C004	1-130-491-00	MYLAR	0.047MF	5%	50V	
C005	1-130-499-00	MYLAR	0.22MF	5%	50V	
C006	1-101-576-00	CERAMIC	1.5PF	0.25PF	50V	
C007	1-130-487-00	MYLAR	0.022MF	5%	50V	
C008	1-102-074-00	CERAMIC	0.001MF	10%	50V	
C009	1-123-318-00	ELECT	33MF	20%	16V	
C010	1-102-074-00	CERAMIC	0.001MF	10%	50V	
C011	1-102-074-00	CERAMIC	0.001MF	10%	50V	
C012	1-123-318-00	ELECT	33MF	20%	16V	
C013	1-123-318-00	ELECT	33MF	20%	16V	
C014	1-102-074-00	CERAMIC	0.001MF	10%	50V	
C015	1-102-963-00	CERAMIC	33PF	5%	50V	
C016	1-102-963-00	CERAMIC	33PF	5%	50V	
C017	1-123-356-00	ELECT	10MF	20%	16V	
C018	1-123-356-00	ELECT	10MF	20%	16V	
C019	1-130-483-00	MYLAR	0.01MF	5%	50V	
C020	1-130-483-00	MYLAR	0.01MF	5%	50V	
C021	1-130-495-00	MYLAR	0.1MF	5%	50V	
C022	1-123-356-00	ELECT	10MF	20%	16V	
C023	1-123-318-00	ELECT	33MF	20%	16V	
C024	1-130-483-00	MYLAR	0.01MF	5%	50V	
C025	1-102-973-00	CERAMIC	100PF	5%	50V	
C026	1-102-973-00	CERAMIC	100PF	5%	50V	
C027	1-102-973-00	CERAMIC	100PF	5%	50V	
C028	1-130-483-00	MYLAR	0.01MF	5%	50V	
C029	1-123-356-00	ELECT	10MF	20%	16V	
C030	1-130-483-00	MYLAR	0.01MF	5%	50V	
C031	1-123-379-00	ELECT	0.47MF	20%	50V	
C032	1-123-379-00	ELECT	0.47MF	20%	50V	
C033	1-123-356-00	ELECT	10MF	20%	16V	
C034	1-102-074-00	CERAMIC	0.001MF	10%	50V	
C035	1-131-404-00	ELECT(SOLID)	0.22MF	10%	25V	
C036	1-130-487-00	MYLAR	0.022MF	5%	50V	
C037	1-131-404-00	ELECT(SOLID)	0.22MF	10%	25V	
C038	1-102-526-00	CERAMIC	75PF	5%	50V	
C039	1-101-004-00	CERAMIC	0.01MF		50V	
C040	1-102-125-00	CERAMIC	0.0047MF	10%	50V	
C041	1-101-884-00	CERAMIC	56PF	5%	50V	
C042	1-101-884-00	CERAMIC	56PF	5%	50V	
C043	1-123-333-00	ELECT	100MF	20%	16V	
C044	1-123-380-00	ELECT	1MF	20%	50V	
C045	1-102-074-00	CERAMIC	0.001MF	10%	50V	
C046	1-102-121-00	CERAMIC	0.0022MF	10%	50V	
C047	1-102-112-00	CERAMIC	330PF	10%	50V	
C048	1-102-526-00	CERAMIC	75PF	5%	50V	
C049	1-102-513-00	CERAMIC	18PF	5%	50V	
C050	1-123-333-00	ELECT	100MF	20%	16V	
C051	1-102-074-00	CERAMIC	0.001MF	10%	50V	

Ref.No.	Part No.	Description	Remark
C052	1-130-485-00	MYLAR 0.015MF 5% 50V	
C053	1-123-380-00	ELECT 1MF 20% 50V	
C054	1-123-330-00	ELECT 22MF 20% 16V	
C055	1-123-333-00	ELECT 100MF 20% 16V	
C056	1-130-483-00	MYLAR 0.01MF 5% 50V	
C057	1-123-356-00	ELECT 10MF 20% 16V	
C058	1-130-483-00	MYLAR 0.01MF 5% 50V	
C059	1-102-958-00	CERAMIC 20PF 5% 50V	
C060	1-123-332-00	ELECT 47MF 20% 16V	
C061	1-102-950-00	CERAMIC 13PF 5% 50V	
C062	1-123-379-00	ELECT 0.47MF 20% 50V	
C063	1-102-074-00	CERAMIC 0.001MF 10% 50V	
C064	1-123-333-00	ELECT 100MF 20% 16V	
C065	1-123-330-00	ELECT 22MF 20% 16V	
C066	1-123-381-00	ELECT 2.2MF 20% 50V	
C067	1-123-318-00	ELECT 33MF 20% 16V	
C068	1-123-328-00	ELECT 4.7MF 20% 25V	
C069	1-161-059-00	CERAMIC 0.047MF 10% 50V	
C070	1-123-622-00	ELECT 22MF 20% 16V	
C071	1-123-622-00	ELECT 22MF 20% 16V	
C072	1-101-004-00	CERAMIC 0.01MF 50V	
C073	1-161-059-00	CERAMIC 0.047MF 10% 50V	
C074	1-123-369-00	ELECT 4.7MF 20% 50V	
C075	1-123-383-00	ELECT 4.7MF 20% 100V	
C076	1-123-318-00	ELECT 33MF 20% 16V	
C077	1-123-380-00	ELECT 1MF 20% 50V	
C078	1-123-380-00	ELECT 1MF 20% 50V	
C079	1-123-356-00	ELECT 10MF 20% 16V	
C080	1-123-356-00	ELECT 10MF 20% 16V	
C081	1-123-380-00	ELECT 1MF 20% 50V	
C083	1-123-380-00	ELECT 1MF 20% 50V	
C084	1-123-380-00	ELECT 1MF 20% 50V	
C086	1-123-328-00	ELECT 4.7MF 20% 25V	
C087	1-102-952-00	CERAMIC 16PF 5% 50V	
C088	1-123-321-00	ELECT 220MF 20% 16V	

FILTER

Ref.No.	Part No.	Description	Remark
CF001	1-409-332-00	CERAMIC TRAP (4.5MHZ)	
CF002	1-527-260-00	FILTER, CERAMIC (4.5MHZ)	
CF003	1-409-332-00	CERAMIC TRAP (4.5MHZ)	

CONNECTOR

Ref.No.	Part No.	Description	Remark
CN001♠:	1-560-468-00	PIN, CONNECTOR 5P	
CN002♠:	1-560-468-00	PIN, CONNECTOR 5P	
CN003♠:	1-560-469-00	PIN, CONNECTOR 6P	
CN004♠:	1-560-470-00	PIN, CONNECTOR 8P	
CN005♠:	1-560-468-00	PIN, CONNECTOR 5P	
CN006♠:	1-560-467-00	PIN, CONNECTOR 4P	
CN007♠:	1-560-466-00	PIN, CONNECTOR 3P	
CN008♠:	1-560-456-00	PIN, CONNECTOR 2P	
CN012♠:	1-560-471-00	PIN, CONNECTOR 10P	
CN013♠:	1-560-468-00	PIN, CONNECTOR 5P	

COMPOSITION CIRCUIT BLOCK

Ref.No.	Part No.	Description	Remark
CP001	1-417-087-00	SEPARATOR, U/V	

DIODE

Ref.No.	Part No.	Description	Remark
D001	8-719-101-07	DIODE RD33EB3	
D002	8-719-911-06	DIODE 1SS106	
D003	8-719-911-19	DIODE 1SS119	
D004	8-719-911-19	DIODE 1SS119	
D005	8-719-911-19	DIODE 1SS119	
D006	8-719-911-19	DIODE 1SS119	
D007 =>	8-719-200-02	DIODE 10E-2	
D008	8-719-102-67	DIODE RD5.1EN1	
D009	8-719-200-02	DIODE 10E-2	
D010	8-719-102-72	DIODE RD5.6EN3	
D011	8-719-903-31	DIODE HZ33-1	
D012	8-719-901-93	DIODE V19E	
D013	8-719-901-93	DIODE V19E	
D014	8-719-911-19	DIODE 1SS119	
D015	8-719-911-19	DIODE 1SS119	
D016	8-719-911-19	DIODE 1SS119	
D017	8-719-911-19	DIODE 1SS119	
D018	8-719-911-19	DIODE 1SS119	
D019	8-719-911-19	DIODE 1SS119	
D020	8-719-911-19	DIODE 1SS119	
D021	8-719-911-19	DIODE 1SS119	
D022	8-719-911-19	DIODE 1SS119	
D023	8-719-911-19	DIODE 1SS119	
D024	8-719-911-19	DIODE 1SS119	
D025	8-719-911-19	DIODE 1SS119	
D026	8-719-911-19	DIODE 1SS119	
D027	8-719-100-50	DIODE RD9.1EB1	

FILTER

Ref.No.	Part No.	Description	Remark
FL001	1-235-227-00	FILTER, LOW PASS	

IC

Ref.No.	Part No.	Description	Remark
IC001	1-235-111-00	MODULE, RF AMP	
IC002	8-759-263-06	IC TD6306P	
IC003	8-757-611-00	IC CX-761A	
IC004	8-759-800-12	IC LA7920	
IC005	8-759-908-52	IC MB88501-149N	
IC006	8-758-852-00	IC CX-885B	
IC007	8-759-103-93	IC UPC393C	
IC008	8-759-240-71	IC TC4071BP	

COIL

Ref.No.	Part No.	Description	Remark
L001	1-408-592-00	MICRO INDUCTOR 1.2UH	
L002	1-420-945-00	COIL, AIR-CORE	
L003	1-408-598-00	MICRO INDUCTOR 3.9UH	
L004	1-408-611-00	MICRO INDUCTOR 47UH	
L005	1-407-184-XX	MICRO INDUCTOR 3.3UH	

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Ref.No.	Part No.	Description	Remark
L006	1-407-179-00	MICRO INDUCTOR 1.2UH	
L007	1-407-184-XX	MICRO INDUCTOR 3.3UH	
L008	1-407-179-00	MICRO INDUCTOR 1.2UH	
L009	1-408-615-00	MICRO INDUCTOR 100UH	
L010	1-408-597-00	MICRO INDUCTOR 3.3UH	
L011	1-408-604-00	MICRO INDUCTOR 12UH	
L012	1-408-397-00	MICRO INDUCTOR 1UH	
L013	1-408-608-00	MICRO INDUCTOR 27UH	
L014	1-408-620-00	MICRO INDUCTOR 270UH	
L015	1-408-614-00	MICRO INDUCTOR 82UH	
L016	1-408-604-00	MICRO INDUCTOR 12UH	
L017	1-408-615-00	MICRO INDUCTOR 100UH	
L018	1-408-615-00	MICRO INDUCTOR 100UH	
L019	1-407-488-00	MICRO INDUCTOR 470UH	
		JACK	
PJ001	♠:1-526-575-00	SOCKET, PLUG	
PJ002	♠:1-526-575-00	SOCKET, PLUG	
		TRANSISTOR	
Q001	8-729-665-47	TRANSISTOR 2SC1362	
Q002	8-769-200-20	TRANSISTOR 2SK107-2	
Q003	8-729-173-37	TRANSISTOR 2SA733-P	
Q004	8-729-173-37	TRANSISTOR 2SA733-P	
Q005	8-729-178-54	TRANSISTOR 2SC2785	
Q006	8-729-173-37	TRANSISTOR 2SA733-P	
Q007	8-729-178-54	TRANSISTOR 2SC2785	
Q008	8-729-177-32	TRANSISTOR 2SD773	
Q009	8-729-117-54	TRANSISTOR 2SA1175	
Q010	8-729-178-54	TRANSISTOR 2SC2785	
Q011	+8-729-178-54	TRANSISTOR 2SC2785	
Q012	8-729-173-37	TRANSISTOR 2SA733-P	
Q013	8-729-173-37	TRANSISTOR 2SA733-P	
Q014	⚠ 8-729-178-54	TRANSISTOR 2SC2785	
Q015	8-729-117-54	TRANSISTOR 2SA1175	
Q016	8-729-178-54	TRANSISTOR 2SC2785	
Q017	8-729-117-54	TRANSISTOR 2SA1175	
Q018	⚠ 8-729-178-54	TRANSISTOR 2SC2785	
Q019	=>8-729-177-43	TRANSISTOR 2SD774	
Q020	8-729-178-54	TRANSISTOR 2SC2785	
Q021	8-729-178-54	TRANSISTOR 2SC2785	
Q022	8-729-178-54	TRANSISTOR 2SC2785	
Q023	8-729-178-54	TRANSISTOR 2SC2785	
Q024	8-729-178-54	TRANSISTOR 2SC2785	
Q025	8-729-178-54	TRANSISTOR 2SC2785	
Q026	8-729-900-33	TRANSISTOR DTC144F	
Q027	8-729-178-54	TRANSISTOR 2SC2785	
Q028	8-729-178-54	TRANSISTOR 2SC2785	
		RESISTOR	
R001	⚠ 1-246-475-00	CARBON 1.2K 5% 1/4W	
R002	1-246-765-00	CARBON 33 1/8W	
R003	1-246-795-00	CARBON 10K 1/8W	
R004	1-246-860-00	CARBON 24K 1/8W	
R005	1-246-803-00	CARBON 47K 1/8W	
R006	1-246-771-00	CARBON 100 1/8W	
R007	1-246-860-00	CARBON 24K 1/8W	
R008	1-246-853-00	CARBON 6.2K 1/8W	
R009	1-246-785-00	CARBON 1.5K 1/8W	
R010	1-246-777-00	CARBON 330 1/8W	
R011	1-246-789-00	CARBON 3.3K 1/8W	
R012	1-246-789-00	CARBON 3.3K 1/8W	
R013	⚠ 1-217-642-00	FUSIBLE 6.8 5% 1/4W	F
R014	1-246-777-00	CARBON 330 1/8W	
R015	1-246-809-00	CARBON 150K 1/8W	
R016	1-246-803-00	CARBON 47K 1/8W	
R017	1-246-803-00	CARBON 47K 1/8W	
R018	1-246-803-00	CARBON 47K 1/8W	
R019	1-246-807-00	CARBON 100K 1/8W	
R020	1-246-799-00	CARBON 22K 1/8W	
R021	1-246-852-00	CARBON 5.1K 1/8W	
R022	1-246-795-00	CARBON 10K 1/8W	
R023	1-246-852-00	CARBON 5.1K 1/8W	
R024	1-246-807-00	CARBON 100K 1/8W	
R025	1-246-807-00	CARBON 100K 1/8W	
R026	1-246-810-00	CARBON 180K 1/8W	
R027	1-246-810-00	CARBON 180K 1/8W	
R028	1-246-801-00	CARBON 33K 1/8W	
R029	1-246-793-00	CARBON 6.8K 1/8W	
R030	1-246-497-00	CARBON 10K 5% 1/4W	
R031	1-246-497-00	CARBON 10K 5% 1/4W	
R032	1-244-873-51	CARBON 1K 5% 1/2W	
R033	1-247-049-00	CARBON 470K 1/8W	
R034	1-246-799-00	CARBON 22K 1/8W	
R035	1-246-799-00	CARBON 22K 1/8W	
R036	1-246-799-00	CARBON 22K 1/8W	
R037	1-246-799-00	CARBON 22K 1/8W	
R038	1-246-791-00	CARBON 4.7K 1/8W	
R039	1-246-791-00	CARBON 4.7K 1/8W	
R040	1-246-791-00	CARBON 4.7K 1/8W	
R041	1-246-791-00	CARBON 4.7K 1/8W	
R042	1-246-791-00	CARBON 4.7K 1/8W	
R043	1-246-791-00	CARBON 4.7K 1/8W	
R044	1-246-795-00	CARBON 10K 1/8W	
R045	1-246-795-00	CARBON 10K 1/8W	
R046	1-246-795-00	CARBON 10K 1/8W	
R047	1-246-795-00	CARBON 10K 1/8W	
R048	1-246-795-00	CARBON 10K 1/8W	
R049	1-246-801-00	CARBON 33K 1/8W	
R050	1-246-791-00	CARBON 4.7K 1/8W	
R051	1-246-803-00	CARBON 47K 1/8W	
R052	1-246-803-00	CARBON 47K 1/8W	
R053	1-246-803-00	CARBON 47K 1/8W	
R054	1-246-803-00	CARBON 47K 1/8W	
R055	1-246-803-00	CARBON 47K 1/8W	
R056	1-246-807-00	CARBON 100K 1/8W	

NOTE:

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Ref.No.	Part No.	Description				Remark
R057	1-246-801-00	CARBON	33K		1/8W	
R058	1-246-795-00	CARBON	10K		1/8W	
R059	1-246-795-00	CARBON	10K		1/8W	
R060	1-246-795-00	CARBON	10K		1/8W	
R061	1-246-803-00	CARBON	47K		1/8W	
R062	1-246-808-00	CARBON	120K		1/8W	
R063	1-246-808-00	CARBON	120K		1/8W	
R064	1-246-795-00	CARBON	10K		1/8W	
R065	1-246-795-00	CARBON	10K		1/8W	
R066	1-246-795-00	CARBON	10K		1/8W	
R067	1-246-783-00	CARBON	1K		1/8W	
R068	1-214-146-00	METAL	3.9K	1%	1/4W	
R069	1-214-148-00	METAL	4.7K	1%	1/4W	
R070	1-214-148-00	METAL	4.7K	1%	1/4W	
R071	1-246-783-00	CARBON	1K		1/8W	
R073	1-246-787-00	CARBON	2.2K		1/8W	
R074	1-246-790-00	CARBON	3.9K		1/8W	
R075	1-246-787-00	CARBON	2.2K		1/8W	
R076	1-246-800-00	CARBON	27K		1/8W	
R077	1-246-787-00	CARBON	2.2K		1/8W	
R078	1-246-782-00	CARBON	820		1/8W	
R079	1-246-807-00	CARBON	100K		1/8W	
R080	1-246-802-00	CARBON	39K		1/8W	
R081	1-246-773-00	CARBON	150		1/8W	
R082	1-247-047-00	CARBON	330K		1/8W	
R083	1-246-789-00	CARBON	3.3K		1/8W	
R084	1-214-164-00	METAL	22K	1%	1/4W	
R085	1-214-162-00	METAL	18K	1%	1/4W	
R086	1-246-783-00	CARBON	1K		1/8W	
R087	1-246-798-00	CARBON	18K		1/8W	
R088	1-246-795-00	CARBON	10K		1/8W	
R089	1-244-861-51	CARBON	330	5%	1/2W	
R090	1-213-134-00	METAL OXIDE	180	5%	1W	F
R091 ⚠	1-244-839-00	CARBON	39	5%	1/2W	
R092	1-246-783-00	CARBON	1K		1/8W	
R093	1-246-795-00	CARBON	10K		1/8W	
R094	1-246-795-00	CARBON	10K		1/8W	
R095	1-246-795-00	CARBON	10K		1/8W	
R096	1-246-852-00	CARBON	5.1K		1/8W	
R097 ⚠.	1-217-641-00	FUSIBLE	4.7	5%	1/4W	F
R098 ⚠.	1-217-638-00	FUSIBLE	1.5	5%	1/4W	F
R099	1-246-779-00	CARBON	470		1/8W	
R100	1-246-807-00	CARBON	100K		1/8W	
R101	1-246-850-00	CARBON	3.6K		1/8W	
R102	1-246-789-00	CARBON	3.3K		1/8W	
R103	1-246-777-00	CARBON	330		1/8W	
R104	1-246-778-00	CARBON	390		1/8W	
R105	1-246-776-00	CARBON	270		1/8W	
R106	1-246-786-00	CARBON	1.8K		1/8W	
R107	1-246-783-00	CARBON	1K		1/8W	
R108	1-246-791-00	CARBON	4.7K		1/8W	
R109	1-246-791-00	CARBON	4.7K		1/8W	
R110	1-246-803-00	CARBON	47K		1/8W	
R111 ⚠.	1-247-091-00	CARBON	22	5%	1/4W	F
R112	1-246-777-00	CARBON	330		1/8W	
R113	1-246-777-00	CARBON	330		1/8W	
R114	1-246-783-00	CARBON	1K		1/8W	
R115	1-246-803-00	CARBON	47K		1/8W	
R117	1-246-799-00	CARBON	22K		1/8W	
R118	1-246-809-00	CARBON	150K		1/8W	
R119	1-246-807-00	CARBON	100K		1/8W	
R120	1-246-801-00	CARBON	33K		1/8W	
R121	1-246-801-00	CARBON	33K		1/8W	
R122	1-246-807-00	CARBON	100K		1/8W	
R123	1-246-801-00	CARBON	33K		1/8W	
R124	1-246-801-00	CARBON	33K		1/8W	
R125	1-246-787-00	CARBON	2.2K		1/8W	
R126	1-246-787-00	CARBON	2.2K		1/8W	
R127	1-246-792-00	CARBON	5.6K		1/8W	
R128	1-246-792-00	CARBON	5.6K		1/8W	
R129	1-246-469-00	CARBON	680	5%	1/4W	
R130	1-246-469-00	CARBON	680	5%	1/4W	
R131	1-246-803-00	CARBON	47K		1/8W	
R132	1-246-803-00	CARBON	47K		1/8W	
R133	1-246-799-00	CARBON	22K		1/8W	
R134	1-246-795-00	CARBON	10K		1/8W	
R135	1-246-803-00	CARBON	47K		1/8W	
R136	1-246-803-00	CARBON	47K		1/8W	
R137	1-246-803-00	CARBON	47K		1/8W	
R138	1-246-803-00	CARBON	47K		1/8W	
R139	1-246-803-00	CARBON	47K		1/8W	
R141	1-246-803-00	CARBON	47K		1/8W	
R142	1-246-795-00	CARBON	10K		1/8W	
R143	1-246-783-00	CARBON	1K		1/8W	
R144	1-246-787-00	CARBON	2.2K		1/8W	
R145	1-246-775-00	CARBON	220		1/8W	
R146	1-246-803-00	CARBON	47K		1/8W	
R147	1-246-807-00	CARBON	100K		1/8W	
R148	1-246-795-00	CARBON	10K		1/8W	
R149	1-246-795-00	CARBON	10K		1/8W	
R151	1-246-788-00	CARBON	2.7K		1/8W	
R152	1-246-793-00	CARBON	6.8K		1/8W	
R153	1-246-786-00	CARBON	1.8K		1/8W	
R154	1-246-808-00	CARBON	120K		1/8W	
R155	1-246-860-00	CARBON	24K		1/8W	
R156	1-246-803-00	CARBON	47K		1/8W	
R157	1-246-803-00	CARBON	47K		1/8W	
R158	1-246-803-00	CARBON	47K		1/8W	
R159	1-246-807-00	CARBON	100K		1/8W	
R160	1-246-788-00	CARBON	2.7K		1/8W	
R161	1-246-795-00	CARBON	10K		1/8W	
R162	1-246-799-00	CARBON	22K		1/8W	

VARIABLE RESISTOR

Ref.No.	Part No.	Description	
RV001	1-228-747-00	RES, ADJ, CARBON	4.7K
RV002	1-228-747-00	RES, ADJ, CARBON	4.7K

NOTE:

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No.	Part No.	Description			Remark
RV003	1-228-748-00	RES, ADJ, CARBON 10K			
RV004	1-228-749-00	RES, ADJ, CARBON 22K			

FILTER

Ref.No.	Part No.	Description			Remark
SF001	1-404-227-51	SAWF			

TRANSFORMER

Ref.No.	Part No.	Description			Remark
T001	1-404-153-00	VIFT			
T002	1-404-321-00	VIFT			
T003	1-404-352-00	COIL, VIF			
T004	1-404-352-00	COIL, VIF			
T005	1-404-411-00	COIL, SIF			
T006	1-447-578-00	TRANSFORMER, DC-DC CONVERTER			

CRYSTAL

Ref.No.	Part No.	Description			Remark
X001	1-527-726-00	VIBRATOR, CRYSTAL			
X002	1-527-822-21	OSCILLATOR, CERAMIC			

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♠:1-610-054-00 TU-34 BOARD

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♠:A-6724-299-A DD-1 BOARD, COMPLETE
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1-806-634-00 DIODE (LED BLOCK)

CAPACITOR

Ref.No.	Part No.	Description			Remark
C001	1-123-354-00	ELECT	3.3MF	20%	50V
C002	1-123-354-00	ELECT	3.3MF	20%	50V
C003	1-123-353-00	ELECT	2.2MF	20%	50V
C004	1-124-257-00	ELECT	2.2MF	20%	50V
C005	1-123-295-00	ELECT	100MF	20%	6.3V
C006	1-123-330-00	ELECT	22MF	20%	16V
C007	1-123-356-00	ELECT	10MF	20%	25V
C008	1-161-022-00	CERAMIC	0.056MF	10%	25V
C009	1-123-319-00	ELECT	47MF	20%	16V
C010	1-124-236-00	ELECT	47MF	20%	16V

DIODE

Ref.No.	Part No.	Description			Remark
D001	=>8-719-911-19	DIODE 1SS119			
D002	=>8-719-911-19	DIODE 1SS119			
D003	8-719-100-31	DIODE RD5.1EB3			

IC

Ref.No.	Part No.	Description			Remark
IC001	8-759-961-38	IC BA6138			
IC002	8-759-993-51	IC MSL9351RS			

TRANSISTOR

Ref.No.	Part No.	Description			Remark
Q002	8-729-178-55	TRANSISTOR 2SC2785-E			
Q003	8-729-987-42	TRANSISTOR 2SA874			
Q004	8-729-987-42	TRANSISTOR 2SA874			
Q005	8-729-987-42	TRANSISTOR 2SA874			
Q006	8-729-987-42	TRANSISTOR 2SA874			
Q007	8-729-101-31	TRANSISTOR N13T1			

RESISTOR

Ref.No.	Part No.	Description			Remark
R001	1-246-783-00	CARBON	1K	1/8W	
R002	1-246-783-00	CARBON	1K	1/8W	
R003	1-247-047-00	CARBON	330K	1/8W	
R004	1-247-047-00	CARBON	330K	1/8W	
R013	1-246-767-00	CARBON	47	1/8W	
R015	1-246-779-00	CARBON	470	1/8W	
R016	1-246-779-00	CARBON	470	1/8W	
R017	1-246-779-00	CARBON	470	1/8W	
R018	1-246-779-00	CARBON	470	1/8W	
R019	1-246-770-00	CARBON	82	1/8W	
R020	1-246-770-00	CARBON	82	1/8W	
R021	1-246-770-00	CARBON	82	1/8W	
R022	1-246-770-00	CARBON	82	1/8W	
R023	1-246-770-00	CARBON	82	1/8W	
R024	1-246-770-00	CARBON	82	1/8W	
R025	1-246-770-00	CARBON	82	1/8W	
R026	1-246-770-00	CARBON	82	1/8W	
R028	1-246-833-00	CARBON	130	1/8W	
R030	1-246-795-00	CARBON	10K	1/8W	

VARIABLE RESISTOR

Ref.No.	Part No.	Description			Remark
RV001	1-226-710-00	RES, ADJ, SOLID 10K			
RV002	1-226-710-00	RES, ADJ, SOLID 10K			

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♠:1-610-041-00 VR-1 BOARD
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♠:3-679-809-00 SPACER, PCB

CAPACITOR

Ref.No.	Part No.	Description			Remark
C001	1-123-317-00	ELECT	22MF	20%	16V
C002	1-123-317-00	ELECT	22MF	20%	16V
C003	1-123-356-00	ELECT	10MF	20%	16V
C004	1-123-356-00	ELECT	10MF	20%	16V

IC

Ref.No.	Part No.	Description			Remark
IC001	8-759-145-58	IC UPC4558C			

RESISTOR

Ref.No.	Part No.	Description			Remark
R001	1-246-775-00	CARBON	220	1/8W	
R002	1-246-775-00	CARBON	220	1/8W	
R003	1-246-811-00	CARBON	220K	1/8W	
R004	1-246-855-00	CARBON	9.1K	1/8W	
R005	1-246-811-00	CARBON	220K	1/8W	
R006	1-246-855-00	CARBON	9.1K	1/8W	

Ref.No.	Part No.	Description	Remark
	♠:1-610-042-00	VR-2 BOARD **********	

VARIABLE RESISTOR

Ref.No.	Part No.	Description	Remark
RV001	1-228-982-00	RES, VAR, SLIDE 20K/20K	

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Ref.No.	Part No.	Description	Remark
	♠:1-610-056-00	SW-22 BOARD ***********	

DIODE

Ref.No.	Part No.	Description	Remark
D001	8-719-113-07	DIODE RD13E-B	
D002	8-719-113-07	DIODE RD13E-B	
D003	8-719-911-19	DIODE 1SS119	
D004	8-719-911-19	DIODE 1SS119	
D005	8-719-911-19	DIODE 1SS119	
D006	8-719-911-19	DIODE 1SS119	
D007	8-719-911-06	DIODE 1SS106	
D008	8-719-911-06	DIODE 1SS106	
D009	8-719-911-06	DIODE 1SS106	
D010	8-719-911-19	DIODE 1SS119	
D011	8-719-911-19	DIODE 1SS119	

VARIABLE RESISTOR

Ref.No.	Part No.	Description	Remark
RV001	1-228-244-00	RES, VAR, SOLID 100K	
RV002	1-228-359-00	RES, VAR, SOLID 5K	

SWITCH

Ref.No.	Part No.	Description	Remark
S001	1-553-766-00	SWITCH, KEY BOARD	
S002	1-553-766-00	SWITCH, KEY BOARD	
S003	1-553-766-00	SWITCH, KEY BOARD	
S004	1-553-766-00	SWITCH, KEY BOARD	
S005	1-553-766-00	SWITCH, KEY BOARD	
S006	1-553-766-00	SWITCH, KEY BOARD	
S008	1-553-716-00	SWITCH, SLIDE	
S009	1-553-754-00	SWITCH, SLIDE	
S010	1-553-716-00	SWITCH, SLIDE	
S011	1-553-754-00	SWITCH, SLIDE	
S012	1-553-716-00	SWITCH, SLIDE	
S013	1-553-754-00	SWITCH, SLIDE	
S014	1-553-716-00	SWITCH, SLIDE	
S015	1-553-766-00	SWITCH, KEY BOARD	
S016	1-553-766-00	SWITCH, KEY BOARD	
S017	1-553-716-00	SWITCH, SLIDE	
S018	1-553-716-00	SWITCH, SLIDE	

Ref.No.	Part No.	Description	Remark
	♠:1-605-109-00	LM-9 BOARD **********	

CAPACITOR

Ref.No.	Part No.	Description				Remark
C001	1-161-057-00	CERAMIC	0.033MF	10%	50V	
C002	1-161-057-00	CERAMIC	0.033MF	10%	50V	

DIODE

Ref.No.	Part No.	Description	Remark
D001	8-719-911-06	DIODE 1SS106	
D002	8-719-911-06	DIODE 1SS106	
D003	8-719-911-06	DIODE 1SS106	

COIL

Ref.No.	Part No.	Description	Remark
L001	1-407-696-00	MICRO INDUCTOR 18UH	
L002	1-407-696-00	MICRO INDUCTOR 18UH	

SWITCH

Ref.No.	Part No.	Description	Remark
S001	1-552-664-00	SWITCH, MICRO	

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Ref.No.	Part No.	Description	Remark
	♠:1-605-110-00	RL-4 BOARD **********	

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Ref.No.	Part No.	Description	Remark
	♠:1-605-111-13	CI-2 BOARD **********	
	1-553-719-00	SWITCH, MICRO	
	♠:3-670-039-00	HOLDER (R), CSW	

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Ref.No.	Part No.	Description	Remark
	♠:1-605-112-00	CI-3 BOARD **********	
	1-553-719-00	SWITCH, MICRO	
	♠:3-670-038-00	HOLDER (L), CSW	

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Ref.No.	Part No.	Description	Remark
	♠:1-603-976-00	N BOARD *******	
	♠:1-535-348-00	TERMINAL, SOLDERLES	
	♠:1-561-584-00	HOUSING, CONNECTOR 3P	
	♠:4-342-117-00	CASE, SHIELD (MAIN), R	
	♠:4-342-118-00	LID, SHIELD CASE, R	
	♠:4-348-551-00	PLATE, SHIELD	

CAPACITOR

Ref.No.	Part No.	Description				Remark
C001	1-123-617-00	ELECT	10MF	20%	16V	
C002	1-123-617-00	ELECT	10MF	20%	16V	
C003	1-123-617-00	ELECT	10MF	20%	16V	
C004	1-161-019-00	CERAMIC	0.033MF	10%	25V	

Ref.No.	Part No.	Description	Remark
C005	1-108-567-00	MYLAR 0.0033MF 5% 50V	

DIODE

Ref.No.	Part No.	Description	Remark
D001	8-719-110-32	DIODE PH302B	

IC

Ref.No.	Part No.	Description	Remark
IC001	8-759-113-73	IC UPC1373H	

COIL

Ref.No.	Part No.	Description	Remark
L001	1-404-310-00	COIL	

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▲:1-605-071-00 LM-8 BOARD
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CAPACITOR

Ref.No.	Part No.	Description	Remark
C101	1-161-057-00	CERAMIC 0.033MF 10% 50V	
C102	1-161-057-00	CERAMIC 0.033MF 10% 50V	

COIL

Ref.No.	Part No.	Description	Remark
L101	1-408-120-00	MICRO INDUCTOR 18UH	
L102	1-408-120-00	MICRO INDUCTOR 18UH	

RESISTOR

Ref.No.	Part No.	Description	Remark
R101	1-206-640-00	METAL OXIDE 100 5% 2W	F

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▲:1-610-045-00 HF-1 BOARD
****

DIODE

Ref.No.	Part No.	Description	Remark
D001	8-719-906-49	DIODE LT-9230N	

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▲:1-610-051-00 MI-2 BOARD
****

JACK

Ref.No.	Part No.	Description	Remark
J001	1-507-806-31	JACK	
J002	1-507-806-21	JACK	

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▲:1-610-046-00 RL-14 BOARD
****

CONNECTOR

Ref.No.	Part No.	Description	Remark
CN001	▲:1-560-472-00	PIN, CONNECTOR 12P	
CN002	▲:1-560-472-00	PIN, CONNECTOR 12P	

DIODE

Ref.No.	Part No.	Description	Remark
D001	8-719-911-06	DIODE 1SS106	
D002	8-719-911-06	DIODE 1SS106	
D003	8-719-911-06	DIODE 1SS106	

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▲:1-610-053-00 CH-29 BOARD
****

SWITCH

Ref.No.	Part No.	Description	Remark
S001	1-553-766-00	SWITCH, KEY BOARD	
S002	1-553-766-00	SWITCH, KEY BOARD	
S003	1-553-716-00	SWITCH, SLIDE	
S004	1-553-766-00	SWITCH, KEY BOARD	

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▲:1-610-057-00 HP-2 BOARD
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Ref.No.	Part No.	Description	Remark
	1-507-833-00	JACK	

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▲:1-610-058-00 CH-30 BOARD
****

DIODE

Ref.No.	Part No.	Description	Remark
D001	8-719-812-31	DIODE TLR123	
D002	8-719-812-31	DIODE TLR123	
D003	8-719-812-32	DIODE TLY123	

SWITCH

Ref.No.	Part No.	Description	Remark
S001	1-553-766-00	SWITCH, KEY BOARD	
S002	1-553-766-00	SWITCH, KEY BOARD	
S003	1-553-766-00	SWITCH, KEY BOARD	
S004	1-553-766-00	SWITCH, KEY BOARD	
S005	1-553-766-00	SWITCH, KEY BOARD	
S006	1-553-766-00	SWITCH, KEY BOARD	
S007	1-553-766-00	SWITCH, KEY BOARD	
S008	1-553-766-00	SWITCH, KEY BOARD	
S009	1-553-766-00	SWITCH, KEY BOARD	
S010	1-553-766-00	SWITCH, KEY BOARD	
S011	1-553-766-00	SWITCH, KEY BOARD	
S012	1-553-766-00	SWITCH, KEY BOARD	
S013	1-553-766-00	SWITCH, KEY BOARD	
S014	1-553-766-00	SWITCH, KEY BOARD	
S015	1-553-766-00	SWITCH, KEY BOARD	

TIMER BLOCK

Ref.No.	Part No.	Description		Remark
	1-548-573-00	TIMER BLOCK ***********		
	♠:9-983-493-00	TIMER BOARD 1		
	♠:9-983-491-00	TIMER BOARD 2		
	9-983-494-00	FLUORESCENT INDICATOR TUBE		
	9-983-501-00	HARNESS WITH CONNECTOR		
		CAPACITOR		
C1	1-123-320-00	ELECT	100MF	16V
C2	1-123-356-00	ELECT	10MF	50V
C3	1-130-495-00	FILM	0.1MF	50V
C4	1-102-074-00	CERAMIC	1000PF	50V
C5	1-101-925-00	CERAMIC	0.047MF	25V
C6	1-102-038-00	CERAMIC	1000PF	500V
C7	1-161-077-00	CERAMIC	1000PF	100V
C8	1-123-356-00	ELECT	10MF	50V
C9	1-161-077-00	CERAMIC	1000PF	100V
C10	1-123-306-00	ELECT	47MF	10V
C11	1-102-125-00	CERAMIC	4700PF	50V
C12	1-123-353-00	ELECT	2.2MF	50V
C13	1-123-354-00	ELECT	3.3MF	50V
C14	1-123-354-00	ELECT	3.3MF	50V
C15	1-123-353-00	ELECT	2.2MF	50V
C16	9-983-049-00	TRIMMER	20PF	
C17	1-102-947-00	CERAMIC	10PF	50V
C18	1-123-354-00	ELECT	3.3MF	50V
C19	1-161-013-00	CERAMIC	0.01MF	25V
C20	1-161-013-00	CERAMIC	0.01MF	25V
C21	1-161-013-00	CERAMIC	0.01MF	25V
C22	1-161-013-00	CERAMIC	0.01MF	25V
C23	1-161-013-00	CERAMIC	0.01MF	25V
C24	1-108-686-00	CERAMIC	3300PF	200V
		CONNECTOR		
TM1	1-564-006-00	PIN, CONNECTOR 7P		
TM2	1-564-008-00	PIN, CONNECTOR 9P		
		COMPOSITION CIRCUIT BLOCK		
CP1	1-232-022-11	COMPOSITION CIRCUIT BLOCK 47K×6		
CP2	1-231-718-11	COMPOSITION CIRCUIT BLOCK 51K×7		
CP3	1-231-718-11	COMPOSITION CIRCUIT BLOCK 51K×7		
CP4	1-231-718-11	COMPOSITION CIRCUIT BLOCK 51K×7		
		DIODE		
D1	8-719-911-19	DIODE 1SS119		
D2	9-983-050-01	DIODE RD47E-B		
D3	8-719-911-19	DIODE 1SS119		
D4	8-719-100-42	DIODE RD6.8E-B3		
D5	8-719-101-02	DIODE RD30E-B4		
D6	8-719-100-29	DIODE RD5.1E-B1		
D7	8-719-911-19	DIODE 1SS119		
D8	8-719-911-19	DIODE 1SS119		
D9	8-719-100-31	DIODE RD5.1E-B3		
D10	8-719-911-19	DIODE 1SS119		
D11	8-719-100-50	DIODE RD9.1E-B1		
D12	8-719-100-23	DIODE RD4.3E-B2		
D13	8-719-911-19	DIODE 1SS119		
D14	9-983-052-01	DIODE TLS123		
D15	8-719-911-19	DIODE 1SS119		
D16	8-719-911-19	DIODE 1SS119		
D17	8-719-911-19	DIODE 1SS119		
D18	8-719-911-19	DIODE 1SS119		
D19	8-719-911-19	DIODE 1SS119		
D22	8-719-911-06	DIODE 1SS106		
D23	9-983-051-01	DIODE 1SR35-100A		
D101	8-719-911-06	DIODE 1SS106		
		IC		
IC1	9-983-499-01	IC UPC7519-527		
		COIL		
L1	9-983-054-00	COIL 100MH		
L2	1-408-577-00	COIL 150MH		
		TRANSISTOR		
Q1	9-983-488-01	TRANSISTOR 2SD600E		
Q2	8-729-873-43	TRANSISTOR 2SD734		
Q3	8-729-853-63	TRANSISTOR 2SC536SP		
Q4	⚠ 8-729-873-43	TRANSISTOR 2SD734		
Q5	8-729-860-83	TRANSISTOR 2SA608SP		
Q6	8-729-860-83	TRANSISTOR 2SA608SP		
Q7	8-729-853-63	TRANSISTOR 2SC536SP		
Q8	8-729-853-63	TRANSISTOR 2SC536SP		
Q9	8-729-853-63	TRANSISTOR 2SC536SP		
Q101	8-729-853-63	TRANSISTOR 2SC536SP		
		RESISTOR		
R1	⚠ 1-217-639-00	FUSIBLE	2.2	1/4W
R2	1-246-469-00	CARBON	680	1/4W
R3	1-246-789-00	CARBON	3.3K	1/6W
R4	1-246-771-00	CARBON	100	1/6W
R5	1-246-799-00	CARBON	22K	1/6W
R6	1-246-783-00	CARBON	1K	1/6W
R7	1-246-783-00	CARBON	1K	1/6W
R8	1-246-767-00	CARBON	47	1/6W
R9	1-246-783-00	CARBON	1K	1/6W
R10	1-246-805-00	CARBON	68K	1/6W

NOTE:

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TIMER BLOCK

POWER BLOCK

Ref.No	Part No	Description			Remark
R11	1-246-779-00	CARBON	470	1/6W	
R12	1-246-776-00	CARBON	270	1/6W	
R13	1-246-807-00	CARBON	100K	1/6W	
R14	1-246-807-00	CARBON	100K	1/6W	
R15	1-247-053-00	CARBON	1M	1/6W	
R16	1-247-852-00	CARBON	7.5K	1/6W	
R17	1-247-799-00	CARBON	22K	1/6W	
R18	1-247-475-00	CARBON	1.2K	1/6W	
R19	1-247-803-00	CARBON	47K	1/6W	
R20	1-247-803-00	CARBON	47K	1/6W	
R21	1-247-803-00	CARBON	47K	1/6W	
R22	1-247-803-00	CARBON	47K	1/6W	
R23	1-247-803-00	CARBON	47K	1/6W	
R24	1-247-803-00	CARBON	47K	1/6W	
R101	1-246-513-00	CARBON	47K	1/6W	
R102	1-246-513-00	CARBON	47K	1/6W	

TRANSFORMER

T1	9-983-490-00	TRANSFORMER
T2	9-983-055-00	TRANSFORMER

CRYSTAL

X1	9-983-053-00	CRYSTAL

****

⚠.1-413-137-11 POWER BLOCK (SR-14A)

****

FERRITE CORE

B1	♠:9-983-333-00	FERRITE CORE
B2	♠:9-983-333-00	FERRITE CORE
B3	♠:9-983-333-00	FERRITE CORE
B4	♠:9-983-333-00	FERRITE CORE
B5	♠:9-983-334-00	FERRITE CORE
B6	♠:9-983-334-00	FERRITE CORE
B7	♠:9-983-333-00	FERRITE CORE
B8	♠:9-983-334-00	FERRITE CORE
B9	♠:9-983-333-00	FERRITE CORE

CAPACITOR

Ref.No	Part No	Description		Remark
C1	⚠.1-130-680-00	FILM	0.1MF	125V
C2	⚠.1-130-680-00	FILM	0.1MF	125V
C3	⚠.1-161-747-00	CERAMIC	2200PF	125V
C4	⚠.1-161-747-00	CERAMIC	2200PF	125V
C5	1-161-747-00	CERAMIC	2200PF	125V
C6	1-161-747-00	CERAMIC	2200PF	125V
C7	1-161-747-00	CERAMIC	2200PF	125V
C8	⚠.1-161-747-00	CERAMIC	2200PF	125V
C9	⚠.1-123-665-00	ELECT	330MF	200V
C10	1-123-858-00	ELECT	4.7MF	160V
C11	1-123-858-00	ELECT	4.7MF	160V
C12	⚠.1-123-335-00	ELECT	330MF	25V
C13	1-108-234-00	FILM	4700PF	50V
C14	1-108-239-00	FILM	0.01MF	50V
C15	1-108-369-00	FILM	2200PF	100V
C16	1-108-369-00	FILM	2200PF	100V
C17	1-108-369-00	FILM	2200PF	100V
C18	9-983-024-00	CERAMIC	0.01MF	50V
C19	⚠.1-123-974-00	ELECT	2200MF	16V
C20	9-983-332-00	ELECT	220MF	16V
C21	1-123-322-00	ELECT	330MF	16V
C22	1-108-227-00	FILM	1000PF	50V
C23	1-124-126-00	ELECT	47MF	25V
C24	1-123-330-00	ELECT	22MF	25V
C25	1-108-227-00	FILM	1000PF	50V
C26	1-123-874-00	ELECT	470MF	16V
C27	9-983-025-00	ELECT	68MF	16V
C28	1-123-874-00	ELECT	470MF	16V
C29	9-983-025-00	ELECT	68MF	16V
C30	1-123-380-00	ELECT	1MF	50V
C31	1-108-246-00	FILM	0.047MF	50V
C32	1-108-571-00	FILM	4700PF	50V
C33	1-108-234-00	FILM	4700PF	50V
C34	1-108-234-00	FILM	4700PF	50V
C35	1-102-112-00	CERAMIC	330PF	50V
C36	1-108-242-00	FILM	0.022MF	50V
C37	1-123-381-00	ELECT	2.2MF	50V
C38	1-108-239-00	FILM	0.01MF	50V
C39	1-123-356-00	ELECT	10MF	16V

CONNECTOR

CN1	♠:1-560-436-00	PIN, CONNECTOR 3P

DIODE

D1	⚠.8-719-530-40	DIODE S3WB40
D2	⚠.8-719-500-01	DIODE S1WB10
D3	⚠.8-719-902-43	DIODE ESAD33-02CS
D4	=>8-719-815-85	DIODE 1S1585
D5	8-719-100-71	DIODE RD15E-B2
D6	8-719-923-48	DIODE 1S2348H
D7	8-719-981-01	DIODE ERA81-004
D8	8-719-982-04	DIODE ERB81-004
D9	8-719-923-48	DIODE 1S2348H

FUSE

F1	⚠.1-532-595-11	FUSE 3.15A 125V

IC

IC1	⚠.8-759-937-59	IC MB3759
IC2	9-983-026-01	IC BA6122A

NOTE:

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POWER BLOCK

Ref.No	Part No	Description			Remark
		CIRCUIT PROTECTOR			
IC3	⚠.1-532-637-11	ICP-N25			
		TRANSISTOR			
Q1	⚠.8-729-925-02	TRANSISTOR 2SC2502			
Q2	⚠.8-729-925-02	TRANSISTOR 2SC2502			
Q3	8-729-194-57	TRANSISTOR 2SC945P			
Q4	⚠.8-729-177-23	TRANSISTOR 2SB772			
Q5	⚠.8-729-177-23	TRANSISTOR 2SB772			
Q6	8-729-194-57	TRANSISTOR 2SC945P			
		RESISTOR			
R1	⚠.1-202-723-00	SOLID	2.2M	1/2W	
R2	⚠.1-205-616-00	CEMENTED	1	5W	F
R3	1-244-929-00	CARBON	220K	1/2W	
R4	1-247-095-00	CARBON	33	1/4W	
R5	1-247-095-00	CARBON	33	1/4W	
R6	1-247-147-00	CARBON	47K	1/4W	
R7	1-247-208-00	CARBON	47	1/4W	
R8	1-247-202-00	CARBON	27	1/2W	
R9	1-247-202-00	CARBON	27	1/2W	
R10	9-983-022-00	MANGANIN WIRE	0.03		
R11	1-247-149-00	CARBON	5.6K	1/4W	
R12	1-247-149-00	CARBON	5.6K	1/4W	
R13	1-247-155-00	CARBON	10K	1/4W	
R14	1-247-149-00	CARBON	5.6K	1/4W	
R15	1-247-145-00	CARBON	3.9K	1/4W	
R16	1-247-145-00	CARBON	3.9K	1/4W	
R17	1-247-131-00	CARBON	1K	1/4W	
R18	1-247-131-00	CARBON	1K	1/4W	
R19	1-247-149-00	CARBON	5.6K	1/6W	
R20	1-247-151-00	CARBON	6.8K	1/6W	
R21	1-247-155-00	CARBON	10K	1/6W	
R22	1-247-141-00	CARBON	2.7K	1/6W	
R23	1-247-147-00	CARBON	4.7K	1/6W	
R24	1-247-155-00	CARBON	10K	1/6W	
R25	1-247-155-00	CARBON	10K	1/6W	
R26	1-247-139-00	CARBON	2.2K	1/6W	
R27	1-247-145-00	CARBON	3.9K	1/6W	
R28	1-246-535-00	CARBON	390K	1/6W	
R29	1-246-533-00	CARBON	330K	1/6W	
R30	1-247-135-00	CARBON	1.5K	1/4W	
R31	1-247-173-00	CARBON	56K	1/6W	
R32	1-247-169-00	CARBON	39K	1/6W	
R33	1-247-129-00	CARBON	820	1/4W	
R34	9-983-023-00	CARBON	82K	1/4W	
R35	1-247-179-00	CARBON	22K	1/6W	
R36	1-247-155-00	CARBON	10K	1/6W	
R37	⚠.1-217-637-00	FUSIBLE	1	1/4W	
R38	1-237-155-00	CARBON	10K	1/6W	
R39	1-247-179-00	CARBON	22K	1/6W	
R40	1-247-145-00	CARBON	3.9K	1/6W	
R41	1-247-155-00	CARBON	10K	1/6W	
R42	1-247-173-00	CARBON	56K	1/6W	
R43	1-247-179-00	CARBON	100K	1/6W	
		RELAY			
RL1	9-982-184-00	RELAY			
		VARIABLE RESISTOR			
RV1	1-226-707-00	RES, ADJ	1K		
RV2	1-226-711-00	RES, ADJ	22K		
RV3	1-226-710-00	RES, ADJ	10K		
		TRANSFORMER			
T1	9-982-395-00	CHOKE COIL, NORMAL			
T2	9-982-395-00	CHOKE COIL, NORMAL			
T3	⚠.1-421-438-31	CHOKE COIL, COMMON			
T4	⚠.1-437-127-11	TRANSFORMER, SWITCHING			
T5	⚠.1-437-097-12	TRANSFORMER, DRIVE			
T6	⚠.1-447-197-11	TRANSFORMER, AC			
T7	9-983-027-00	CHOKE, COIL			
T8	9-983-028-00	CHOKE, COIL (B)			
T9	9-983-029-00	CHOKE, COIL (C)			
T10	9-983-030-00	TRANSFORMER			
T11	9-983-031-00	CHOKE, COIL (A)			
T12	9-983-032-00	CHOKE, COIL			
T13	9-983-033-00	CHOKE, COIL (D)			
T14	9-983-034-00	CHOKE, COIL (E)			

****

MISCELLANEOUS
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Ref.No	Part No	Description
	A-6737-093-A	MOTOR BLOCK ASSY, REEL
	⚠.1-536-791-11	TERMINAL BOARD
	⚠ 1-551-964-21	CORD POWER
	⚠ 1-561-347-11	SOCKET, AC
	1-806-633-21	ELEMENT, MAGNETIC RESISTOR
	8-825-508-10	HEAD, FE
M951	A-6737-090-A	MOTOR ASSY, L
M952	8-838-021-11	MOTOR, DC (BHF-1800B)
M953	X-3670-002-0	MOTOR ASSY, FL
M954	8-838-022-11	MOTOR, DC (BHF-1900B)
M955	8-838-021-11	MOTOR, DC (BHF-1800B)

NOTE:

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Ref.No	Part No	Description	Remark
L951	1-235-054-21	COIL, SENSOR, S	
L952	1-235-055-21	COIL SENSOR, T	
S951	1-553-539-00	SWITCH, MICRO	
S952	1-553-717-00	SWITCH, MICRO	
S953	1-553-718-00	SWITCH, MICRO	
S954	1-552-664-00	SWITCH, MICRO	
SL951⚠	1-454-281-21	SOLENOID, PLUNGER	
SL952⚠	1-454-282-00	SOLENOID, PLUNGER	

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ACCESSORIES AND PACKING MATERIALS
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A-6765-130-A	COMMANDER ASSY (I)
1-513-379-71	CONVERTER (EAC-25)
1-551-139-00	CORD, CONNECTION
1-551-644-41	CORD, CONNECTION
1-551-734-11	CORD, CONNECTION (RK-74A)
3-681-190-00	SHEET PROTECTION
3-679-971-00	INDIVIDUAL CARTON (US,Canadian)
3-679-982-00	INDIVIDUAL CARTON (SL-2700B)
3-679-972-00	INDIVIDUAL CARTON (PX)
3-679-975-00	INDIVIDUAL CARTON (E)
3-679-976-00	CUSHION (UPPER)
3-679-977-00	CUSHION (LOWER)
3-679-978-00	CASE, ACCESSORY
3-679-979-00	LID, ACCESSORY CASE
3-773-435-21	MANUAL, INSTRACTION (Canadian,PX, E)
3-773-435-22	MANUAL, INSTRACTION (VS)
	MANUAL, INSTRACTION (SL-2700B)
3-773-435-31	MANUAL, INSTRACTION (Canadian)
3-773-435-41	MANUAL, INSTRUCTION (E)
3-795-581-21	INSTRACTION (US)
	INSTRACTION (SL-2700B)
3-795-623-21	MANUAL, INSTANT INFORMATION
	MANUAL, INSTANT INFORMATION (SL-2700B)
4-491-335-21	CARD, WARRANTY (US)
4-491-336-22	REGISTRATION (US)
3-703-714-00	PROJECTOR LEAFLET (US)

NOTE:

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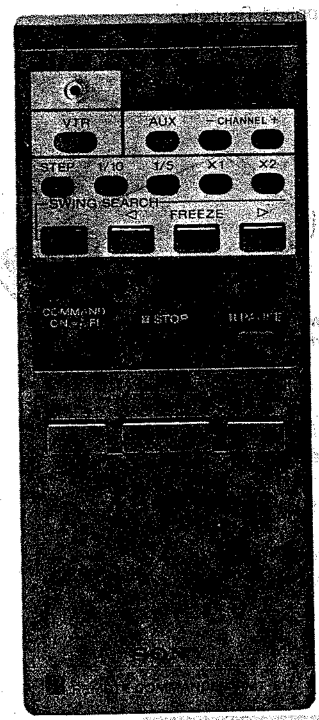
RMT-317

SERVICE MANUAL


VTR
AUX
CHANNEL +
STEP
1/10
1/5
X1
X2
SWING SEARCH
◁
FREEZE
▷
COMMAND ON/OFF
■ STOP
II PAUSE

May, 1983

SPECIFICATIONS

Remote control system	Infrared control
Power requirements	3V dc, 2 size AA batteries (IEC designation R6)
Dimensions	Approx. 65 × 150 × 18 mm (w/h/d) ($2^{5}/_{8} \times 6 \times {}^{3}/_{4}$ inches) incl. projecting parts and controls
Weight	Approx. 140 g (5 oz) incl. batteries

REMOTE COMMANDER

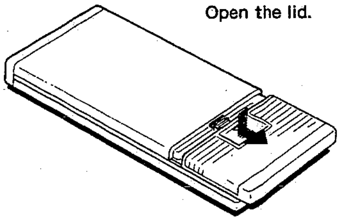
SONY®

1. REMOTE CONTROL OPERATION

You can control almost all the functions of the SL-2700 video cassette recorder from your armchair using the supplied Remote Commander.

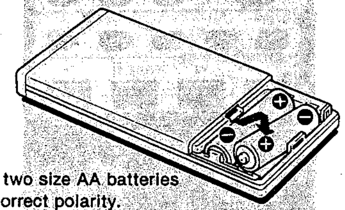
BATTERY INSERTION

1



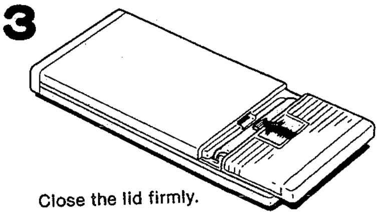
Open the lid.

2



Insert two size AA batteries with correct polarity.

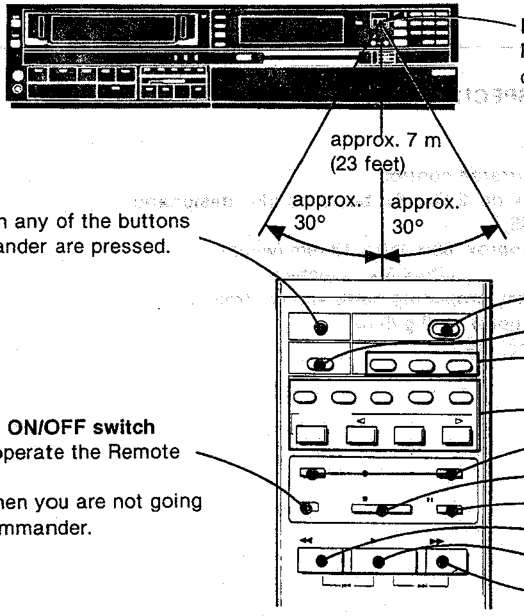
3



Close the lid firmly.

Battery life
In normal operation, batteries will last for about six months. If the range of the Remote Commander becomes noticeably shorter, replace the batteries with new ones. When the batteries are exhausted, the pilot lamp will not light when the buttons on the Commander are pressed.
If the Remote Commander is not to be used for a long period of time, remove the batteries to avoid possible damage from battery leakage.

HOW TO USE THE REMOTE COMMANDER



REMOTE SENSOR
Point the infrared transmitter of the Remote Commander here.

Pilot lamp
Lights up when any of the buttons on the Commander are pressed.

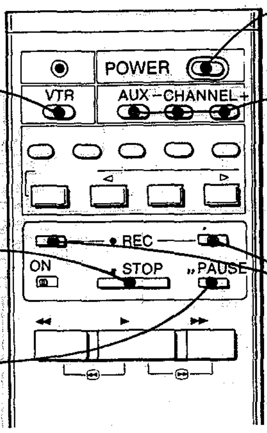
COMMANDER ON/OFF switch
Set to ON to operate the Remote Commander.
Set to OFF when you are not going to use the Commander.

Buttons which have the same function as those on the recorder.

POWER button
VTR button (PROGRAM SELECT)
AUX button and CHANNEL +/− buttons
SWING SEARCH buttons
REC buttons
STOP button
PAUSE button
REW button
PLAY button
FF button

Notes
- There should be no obstacles between the Remote Commander and the REMOTE SENSOR of the recorder.
- The shorter the distance between the Remote Commander and the recorder, the wider the angle within which the recorder can be controlled.
- Avoid dropping foreign objects into the case, particularly when replacing batteries.
- Keep the Commander away from extremely hot or humid places.
- Avoid mechanical shock to the Commander.
- This Remote Commander can be used only with the SL-2700.

Recording



VTR button
Functions in the same way as the PROGRAM SELECT button on the recorder.
The VTR lamp will indicate the selected mode.

Press to stop recording.

Press to stop the tape momentarily.
To resume recording, press again.

1 Press to turn the power of the recorder on. (Press again to turn it off.)

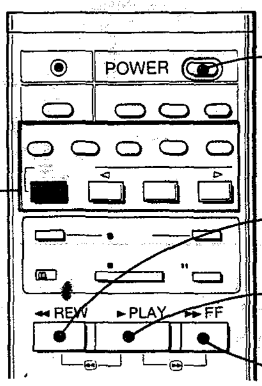
2 Select the channel.
Press the + button for higher numbered channels and – button for lower numbered channels which are preset on the recorder.
To record the program from the AUX terminal, press the AUX button.

3 Press these two buttons simultaneously.

- This recorder is preset at the factory to receive VHF channels 2 through 13 with the CHANNEL buttons on the Remote Commander. To add UHF channels or CATV channels, or to erase inactive channels see page 12.

- You can select the channel with the Remote Commander only in the stop or pause mode.

Playback



1 Press to turn the power of the recorder on. (To turn it off, press again.)

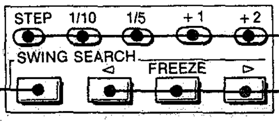
REW ◄◄ button
Press to rewind the tape.
Used also for Betascan operation in the reverse direction.

2 Press.
The playback begins.

►► FF button
Press to advance the tape rapidly.
Used also for Betascan operation in the forward direction.

To see the playback picture at various speeds

① Press during playback.

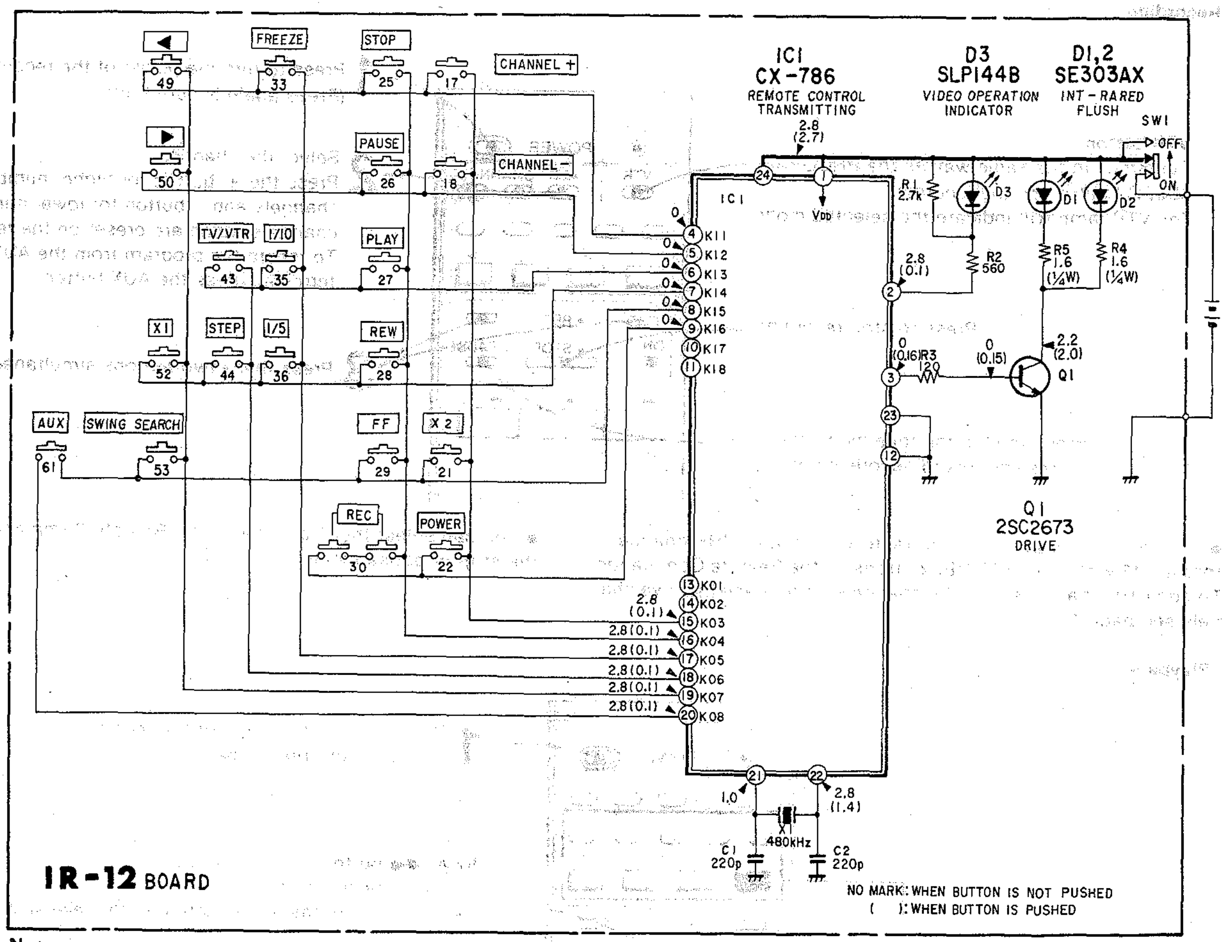


② Select the playback speed.

③ Select the playback direction.
For freeze picture press FREEZE.

The Swing Search operations are the same as those with the buttons on the recorder.
To resume normal playback, press the ► PLAY button.

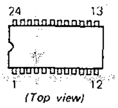
2. SCHEMATIC DIAGRAM


FREEZE
STOP
CHANNEL +
CHANNEL –
PAUSE
PLAY
TV/VTR
1/10
X1
STEP
1/5
REW
AUX
SWING SEARCH
FF
X2
REC
POWER
49
33
25
17
50
26
18
43
35
27
52
44
36
28
61
53
29
21
30
22
IC1
CX-786
REMOTE CONTROL
TRANSMITTING
D3
SLP144B
VIDEO OPERATION
INDICATOR
D1,2
SE303AX
INT-RARED
FLUSH
SW1
OFF
ON
VDD
K11
K12
K13
K14
K15
K16
K17
K18
K01
K02
K03
K04
K05
K06
K07
K08
2.8
(2.7)
2.8 (0.1)
R1 2.7k
R2 560
R5 1.6 (1/4W)
R4 1.6 (1/4W)
R3 120
0 (0.16)
0 (0.15)
2.2 (2.0)
Q1
3V DC
SIZE"AA"
Q1
2SC2673
DRIVE
1.0
2.8 (1.4)
X1 480kHz
C1 220p
C2 220p
IR-12 BOARD
NO MARK: WHEN BUTTON IS NOT PUSHED
( ): WHEN BUTTON IS PUSHED

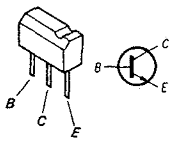
Note:

- All capacitors are in μF unless otherwise noted. p : μμF 50WV or less are not indicated except for electrolytics.
- All resistors are in ohms, 1/6W unless otherwise noted. k : 1000Ω, M : 1000kΩ
- ▭ : panel designation.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken with a 10M-ohm-per-volt VOM.

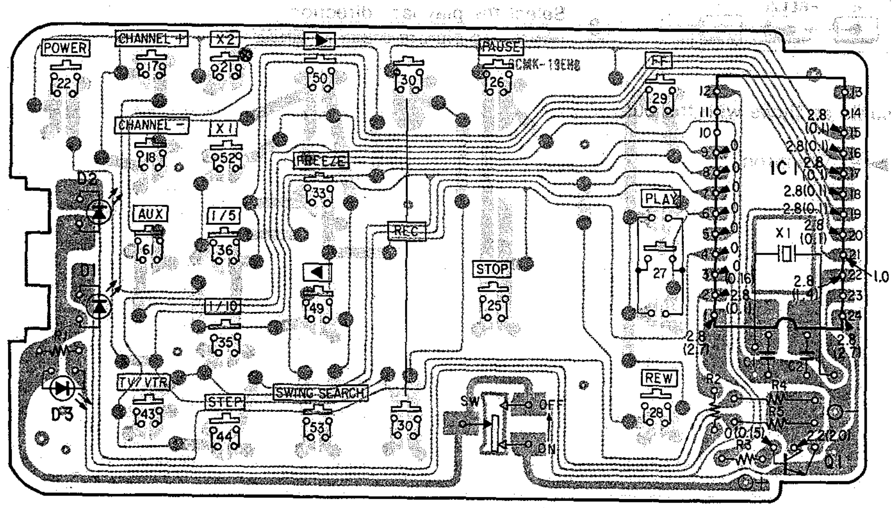
CX786


24
13
1
12
(Top view)

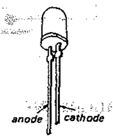
2SC2673



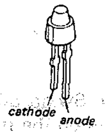
3. PRINTED WIRING BOARD


POWER
CHANNEL +
X2
PAUSE
FF
CHANNEL –
X1
FREEZE
PLAY
AUX
1/5
REC
STOP
1/10
TV/VTR
STEP
SWING SEARCH
REW
D2
D1
D3
IC1
X1
SW1
OFF
ON
Q1
R2
R3
R4
R5
C1
C2
1.0

SE303AX


anode
cathode

SLP144B


cathode
anode

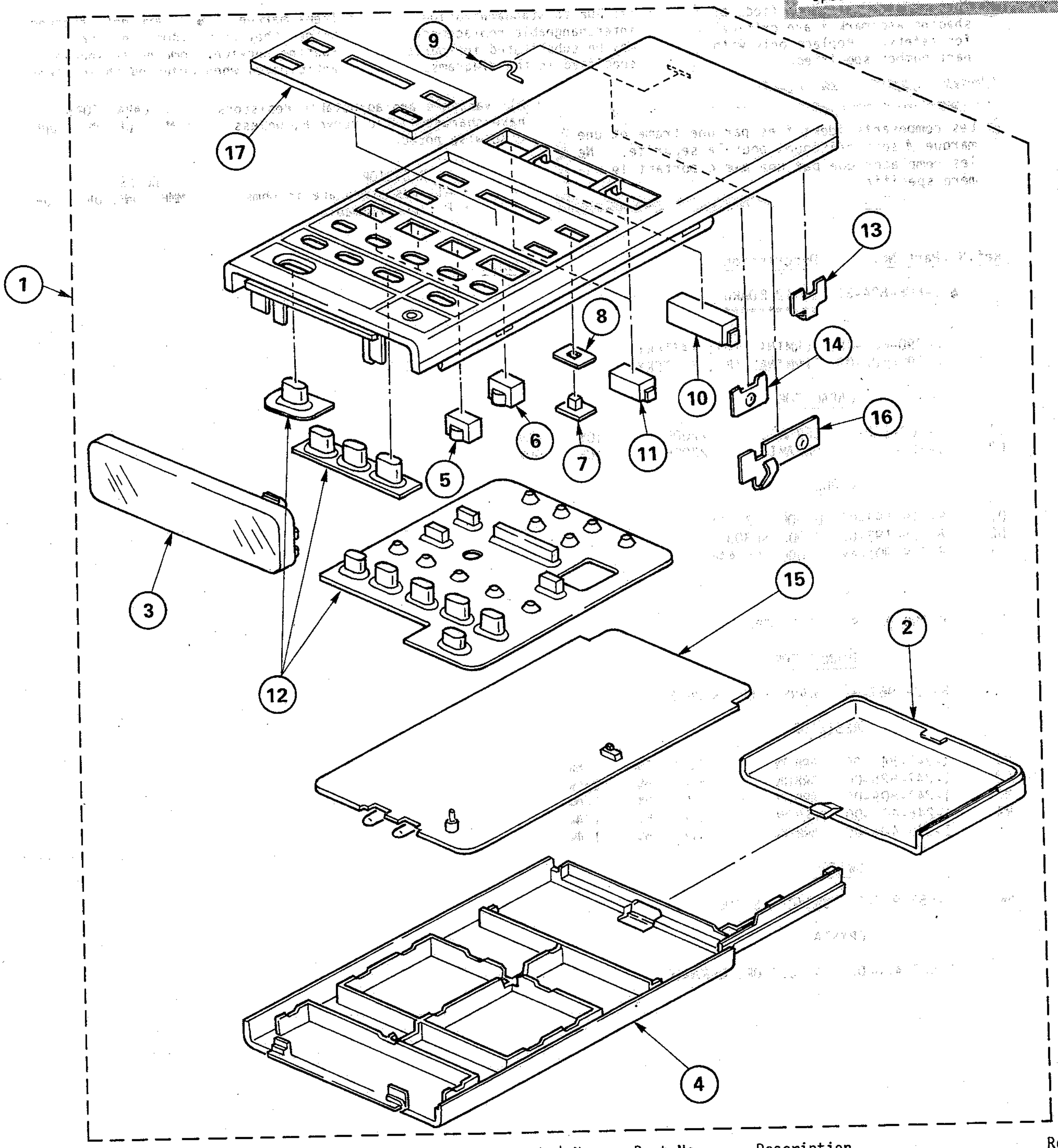
4. EXPLODED VIEW

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

- Items marked " ♠ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.



No.	Part No.	Description	Remark
1	A-6765-130-A	COMMANDER ASSY (I)	2-17
2	2-290-606-00	COVER, BATTERY	
3	2-290-608-00	PLATE, FROSTED	
4	2-290-611-00	CASE, LOWER	
5	2-290-626-01	PUSH BUTTON	
6	2-290-626-11	PUSH BUTTON	
7	2-290-628-00	KNOB, SLIDE	
8	2-290-629-00	PLATE, COLOR	
9	♠:2-290-630-00	STOPPER, HOLDER	
10	2-290-632-00	PUSH BUTTON (L)	
11	2-290-633-00	PUSH BUTTON (M)	
12	2-290-652-00	RUBBER (I), CONTACT	
13	2-290-601-00	TERMINAL (A), BATTERY	
14	2-290-602-00	TERMINAL (B), BATTERY	
15	♠:1-608-824-31	IR-12 BOARD	
16	4-350-925-00	TERMINAL (C), BATTERY	
17	♠:2-290-627-11	LABEL (B)	

5. ELECTRICAL PARTS LIST

NOTE:

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- =>: Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.
- Items marked " ♠ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

CAPACITORS
- MF : μF, PF : μμF

RESISTORS
- All resistors are in ohms
- F : nonflammable

COILS
- MMH : mH, UH : μH

Ref.No.	Part No.	Description				Remark
	♠:1-608-824-31	IR-12 BOARD ***********				
	2-290-601-00	TERMINAL (A), BATTERY				
	2-290-602-00	TERMINAL (B), BATTERY				
		CAPACITOR				
C1	1-102-110-00	CERAMIC	220PF	10%	50V	
C2	1-102-110-00	CERAMIC	220PF	10%	50V	
		DIODE				
D1	8-719-193-03	DIODE SE303AX				
D2	8-719-193-03	DIODE SE303AX				
D3	8-719-901-44	DIODE SLP144B				
		IC				
IC1	8-759-907-86	IC CX-786				
		TRANSISTOR				
Q1	8-729-967-32	TRANSISTOR 2SC2673				
		RESISTOR				
R1	1-247-841-00	CARBON	2.7K	5%	1/6W	
R2	1-247-825-00	CARBON	560	5%	1/6W	
R3	1-247-809-00	CARBON	120	5%	1/6W	
R4	1-246-406-00	CARBON	1.6	5%	1/4W	
R5	1-246-406-00	CARBON	1.6	5%	1/4W	
		SWITCH				
SW1	1-553-977-31	SWITCH, SLIDE				
		CRYSTAL				
X1	1-527-476-00	OSCILLATOR, CERAMIC				

Sony Corporation
Consumer Products Group
Technical Support Dept.

English
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SL-2700/2700B
RMT-317

Vork

US Model
Canadian Model
PX Model
E Model

June, 1984

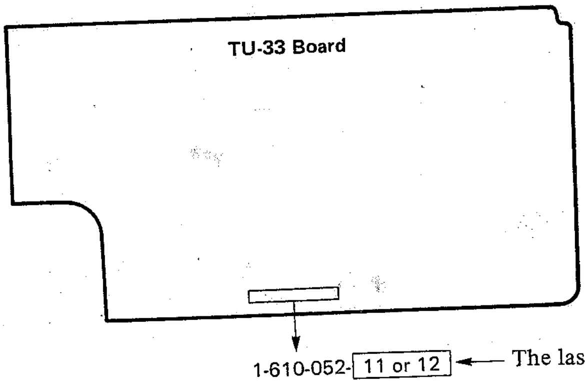
SONY®
SERVICE MANUAL

CORRECTION-1

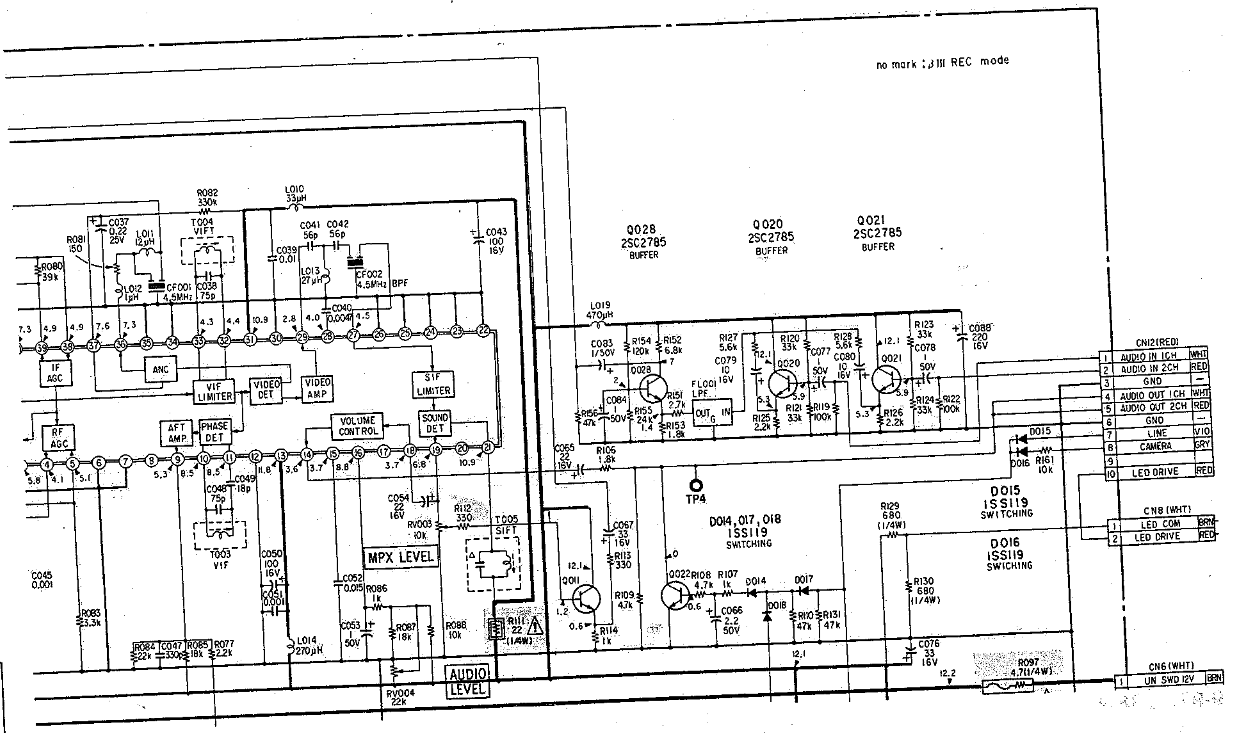
File this CORRECTION-1 with the service manual.

Please correct the schematic diagram for TU-33 board on the service manual previously issued. There are two types of schematic diagrams which vary depending on the last digits of part number for TU-33 board.
If the digits are -11 or -12, a low pass filter has been added to the AUDIO OUT side of the circuit.

How to discriminate the TU-33 board.


TU-33 Board
1-610-052- 11 or 12
The last digits of part No.

INCORRECT
Page 150.


no mark : βIII REC mode
Q028 2SC2785 BUFFER
Q020 2SC2785 BUFFER
Q021 2SC2785 BUFFER
L019 470μH
FL001 LPF
TP4
D014, 017, 018 1SS119 SWITCHING
D015 1SS119 SWITCHING
D016 1SS119 SWICHING
CN12 (RED)
1 AUDIO IN 1CH WHT
2 AUDIO IN 2CH RED
3 GND
4 AUDIO OUT 1CH WHT
5 AUDIO OUT 2CH RED
6 GND
7 LINE VIO
8 CAMERA GRY
9
10 LED DRIVE RED
CN8 (WHT)
1 LED COM BRN
2 LED DRIVE RED
CN6 (WHT)
1 UN SWD 12V BRN
R097 4.7(1/4W)
IF AGC
RF AGC
ANC
VIF LIMITER
VIDEO DET
VIDEO AMP
SIF LIMITER
AFT AMP
PHASE DET
VOLUME CONTROL
SOUND DET
T004 VIFT
T003 VIF
T005 SIFT
CF001 4.5MHz
CF002 4.5MHz BPF
MPX LEVEL
AUDIO LEVEL
RV003 10k
RV004 22k

MICROFILM

Consumer VIDEO

☛ : Corrected portion

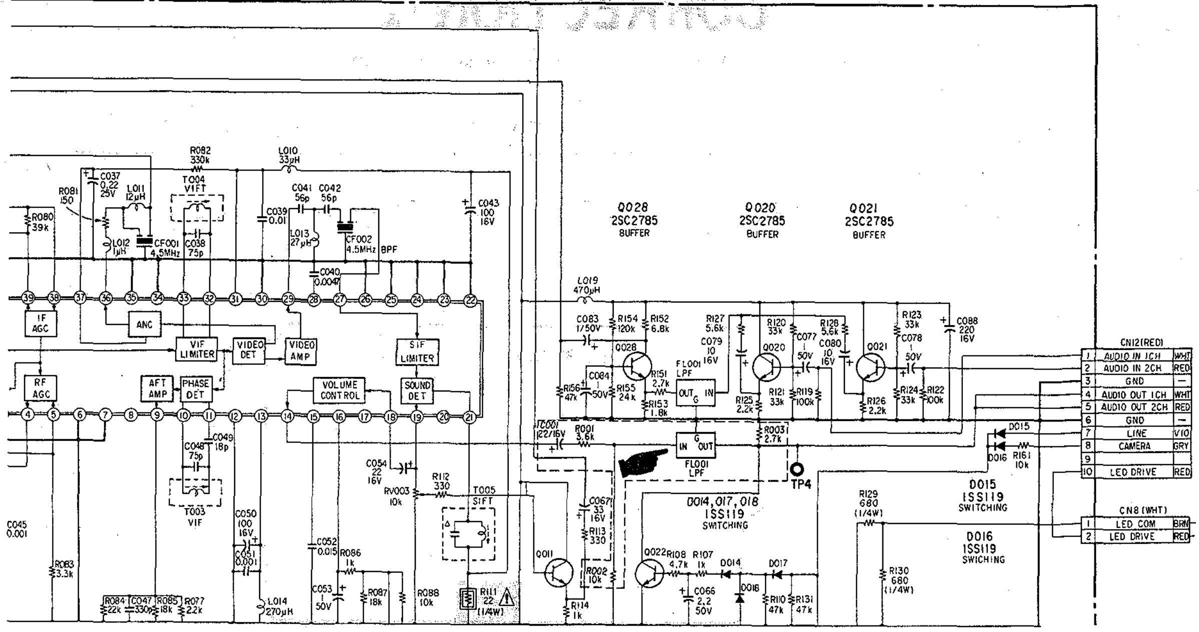
CORRECT

The last digits: -11

┌ ─ ─ ─ ┐
└ ─ ─ ─ ┘ *shows the circuit of a small board on TU-33 board.*

Page 150. Note:

The Ref. No. of a low pass filter on the AUDIO OUT side which is mounted on a small board is the same as the AUDIO IN side.
The parts used on the both sides are the same, too.

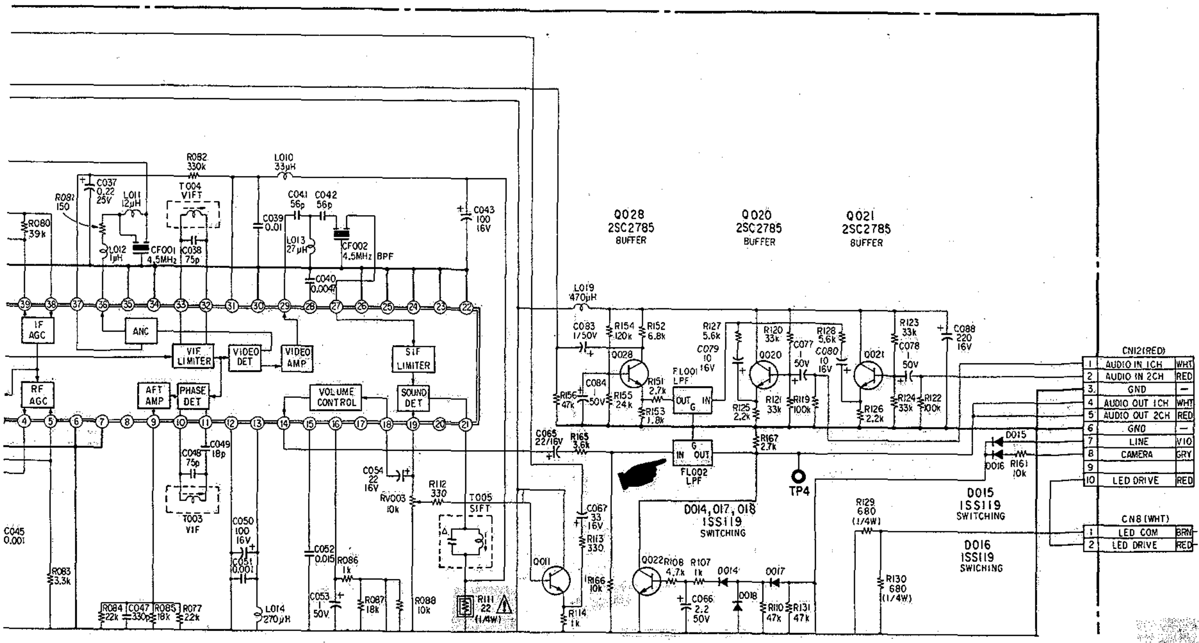


R082 330k
L010 33μH
C037 0.22 25V
L011 12μH
T004 VIFT
R081 150
R080 39k
L012 1μH
CF001 4.5MHz
C038 75p
C041 56p
C042 56p
C039 0.01
L013 27μH
CF002 4.5MHz BPF
C040 0.0047
C043 100 16V
IF AGC
ANC
VIF LIMITER
VIDEO DET
VIDEO AMP
SIF LIMITER
RF AGC
AFT AMP
PHASE DET
VOLUME CONTROL
SOUND DET
C048 75p
C049 18p
T003 VIF
C045 0.001
R083 3.3k
C050 100 16V
C051 0.001
C052 0.015
R086 1k
C054 22 16V
RV003 10k
R112 330
T005 SIFT
R084 22k
C047 330p
R085 18k
R077 22k
L014 270μH
C053 1 50V
R087 18k
R088 10k
R111 22 (1/4W)
Q028 2SC2785 BUFFER
Q020 2SC2785 BUFFER
Q021 2SC2785 BUFFER
L019 470μH
C083 1/50V
R154 120k
R152 6.8k
R127 5.6k
R120 33k
R128 5.6k
R123 33k
C088 220 16V
C079 10 16V
C077 1 50V
C080 10 16V
C078 1 50V
Q028
Q020
Q021
FL001 LPF
C084 1 50V
R156 47k
R155 24k
R151 2.7k
R153 1.8k
R125 2.2k
R121 33k
R119 100k
R126 2.2k
R124 33k
R122 100k
IC001 22/16V
R001 3.6k
FL001 LPF
R003 2.7k
TP4
D015
D016
R161 10k
C067 33 16V
R113 330
R002 10k
Q011
R114 1k
Q022
R108 4.7k
R107 1k
D014
D017
D018
C066 2.2 50V
R110 47k
R131 47k
D014, 017, 018 1SS119 SWITCHING
R129 680 (1/4W)
R130 680 (1/4W)
D015 1SS119 SWITCHING
D016 1SS119 SWICHING
CN12(RED)
1 AUDIO IN 1CH WHT
2 AUDIO IN 2CH RED
3 GND —
4 AUDIO OUT 1CH WHT
5 AUDIO OUT 2CH RED
6 GND —
7 LINE VIO
8 CAMERA GRY
9
10 LED DRIVE RED
CN8 (WHT)
1 LED COM BRN
2 LED DRIVE RED

The last digits: -12

Page 150. Note:

The low pass filters FL001 on the AUDIO IN side and FL002 on the AUDIO OUT side are same parts.



R082 330k
L010 33μH
C037 0.22 25V
L011 12μH
T004 VIFT
R081 150
R080 39k
L012 1μH
CF001 4.5MHz
C038 75p
C041 56p
C042 56p
C039 0.01
L013 27μH
CF002 4.5MHz BPF
C040 0.0047
C043 100 16V
IF AGC
ANC
VIF LIMITER
VIDEO DET
VIDEO AMP
SIF LIMITER
RF AGC
AFT AMP
PHASE DET
VOLUME CONTROL
SOUND DET
C048 75p
C049 18p
T003 VIF
C045 0.001
R083 3.3k
C050 100 16V
C051 0.001
C052 0.015
R086 1k
C054 22 16V
RV003 10k
R112 330
T005 SIFT
R084 22k
C047 330p
R085 18k
R077 22k
L014 270μH
C053 1 50V
R087 18k
R088 10k
R111 22 (1/4W)
Q028 2SC2785 BUFFER
Q020 2SC2785 BUFFER
Q021 2SC2785 BUFFER
L019 470μH
C083 1/50V
R154 120k
R152 6.8k
R127 5.6k
R120 33k
R128 5.6k
R123 33k
C088 220 16V
C079 10 16V
C077 1 50V
C080 10 16V
C078 1 50V
FL001 LPF
C084 1 50V
R156 47k
R155 24k
R151 2.7k
R153 1.8k
R125 2.2k
R121 33k
R119 100k
R126 2.2k
R124 33k
R122 100k
C065 22/16V
R165 3.6k
FL002 LPF
R167 2.7k
TP4
D015
D016
R161 10k
C067 33 16V
R113 330
R166 10k
Q011
R114 1k
Q022
R108 4.7k
R107 1k
D014
D017
D018
C066 2.2 50V
R110 47k
R131 47k
D014, 017, 018 1SS119 SWITCHING
R129 680 (1/4W)
R130 680 (1/4W)
D015 1SS119 SWITCHING
D016 1SS119 SWICHING
CN12(RED)
1 AUDIO IN 1CH WHT
2 AUDIO IN 2CH RED
3 GND —
4 AUDIO OUT 1CH WHT
5 AUDIO OUT 2CH RED
6 GND —
7 LINE VIO
8 CAMERA GRY
9
10 LED DRIVE RED
CN8 (WHT)
1 LED COM BRN
2 LED DRIVE RED

9-972-238-91

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ADJUSTMENTS MANUAL

US Model
Canadian Model
E Model
PX Model

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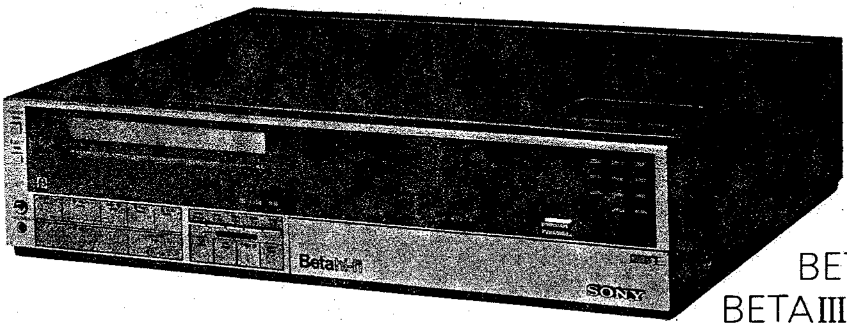

BETA III/II RECORD
BETA III/II/I PLAYBACK

711D CHASSIS

June, 1983

Beta
VIDEOCASSETTE RECORDER

SONY®

MICROFILM

Consumer
VIDEO

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SECTION 1

PREPARATION FOR MECHANICAL SECTION CHECK, ADJUSTMENT, AND REPLACEMENT

1-1. REMOVAL OF THE CASE

Removal of the Case and Front Panel

1) Remove the four screws ①.
2) Remove upper case ② in the direction of arrow Ⓐ.
3) Remove the ten screws ③ on the lower panel assembly ④ and remove it.
4) Remove the four front panel screws ⑤.
5) Remove the front panel assembly ⑥ by pulling in the direction of arrow Ⓑ, after disengaging the four hooks ⑦ from the main body.

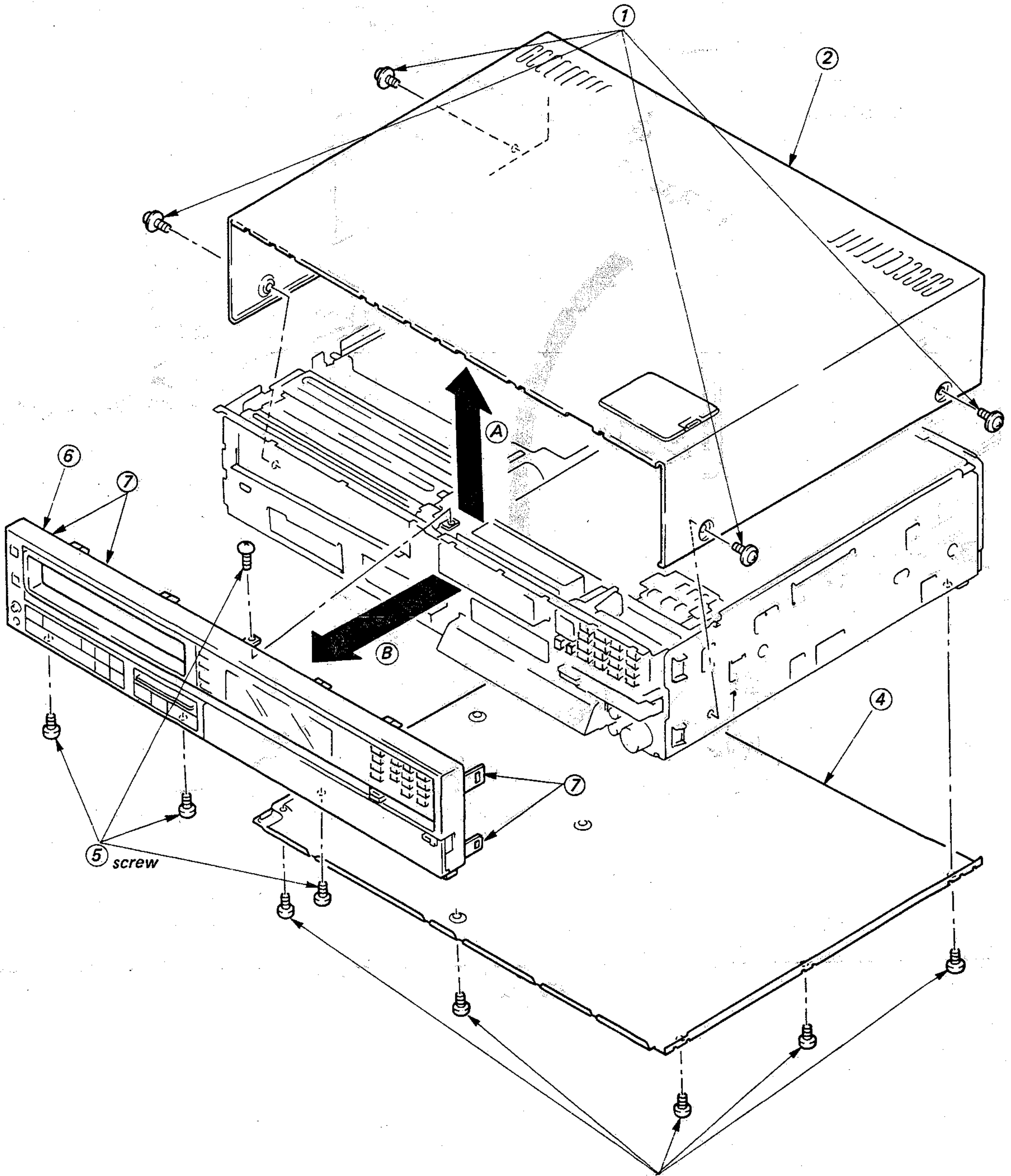


Fig. 1-1.

1-2. OPENING OF TU-33 BOARD

1) Remove the four screws ①.
2) Open TU-33 board in the direction of arrow Ⓐ. (Refer to the figure A and B.)

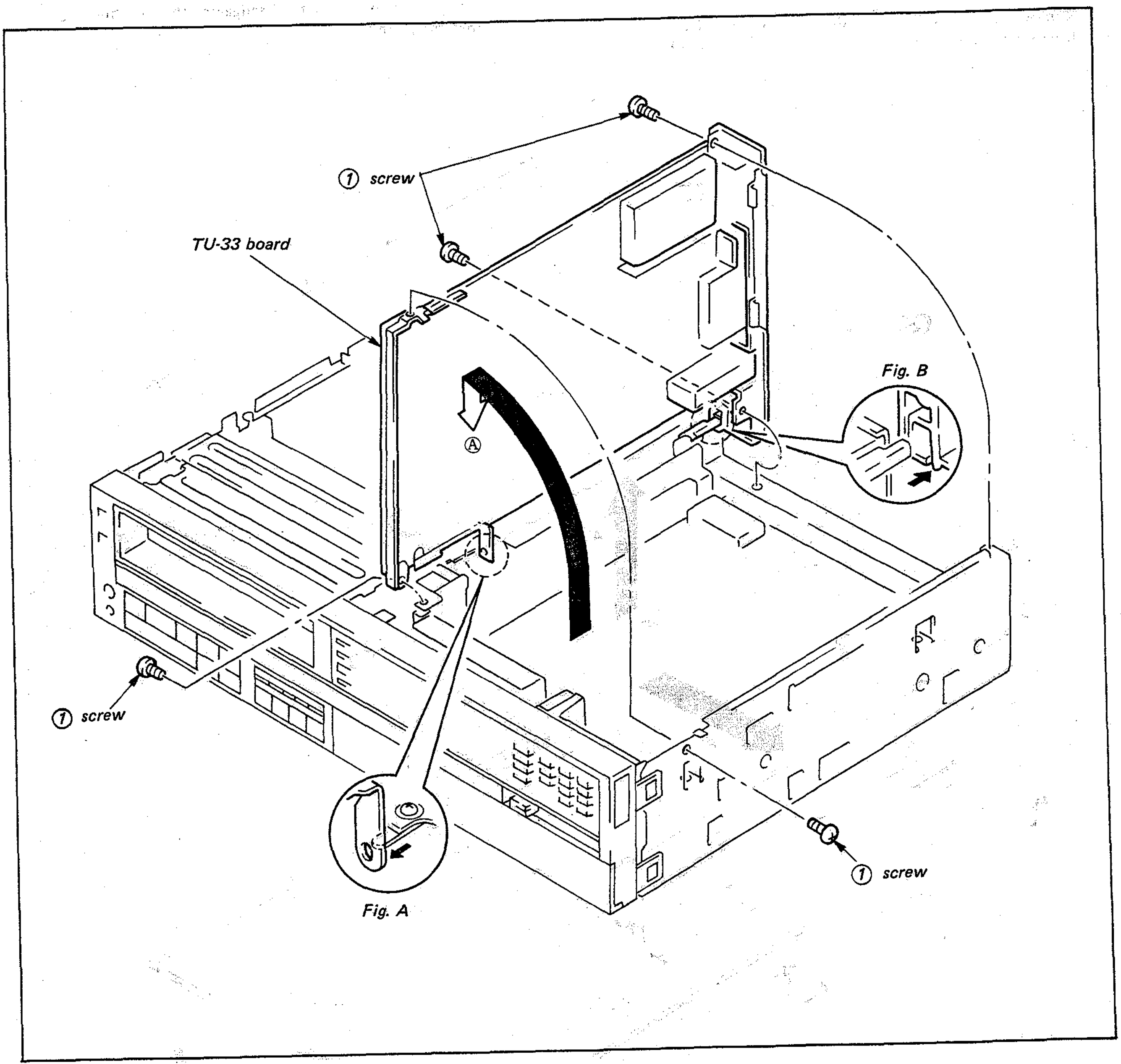

① screw
TU-33 board
Fig. B
Ⓐ
① screw
① screw
Fig. A

Fig. 1-2.

1-3. OPENING OF SS-14 BOARD

1) Remove the two screws ①.
2) Open SS-14 board in the direction of arrow Ⓐ. (Refer to the figure A and B.)

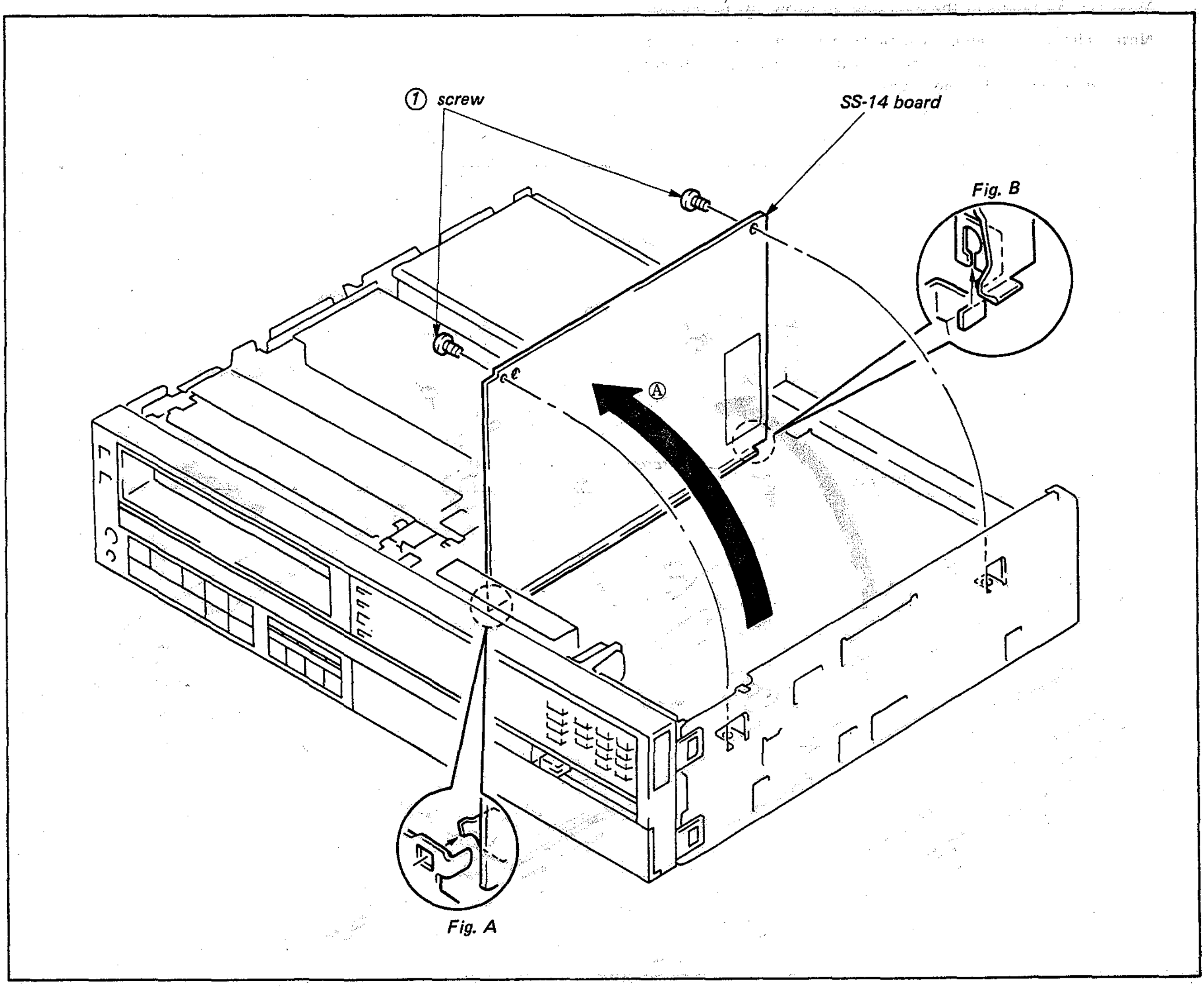

① screw
SS-14 board
Fig. B
Ⓐ
Fig. A

Fig. 1-3.

1-4. OPENING OF RR-1 BOARD AND REMOVAL OF TU-33 BOARD

1) Remove the two screws ① on the RR-1 board.
2) Open RR-1 board in the direction of arrow Ⓐ.
3) Remove the four screws ② holding TU-33 board.
4) Unfasten sections ⓑ, ⓒ.
5) Move TU-33 board in the direction of arrow Ⓑ to remove.

Note: The TU-33 board is removed with the connectors on the reverse side of the board still attached. Do not move more than necessary.

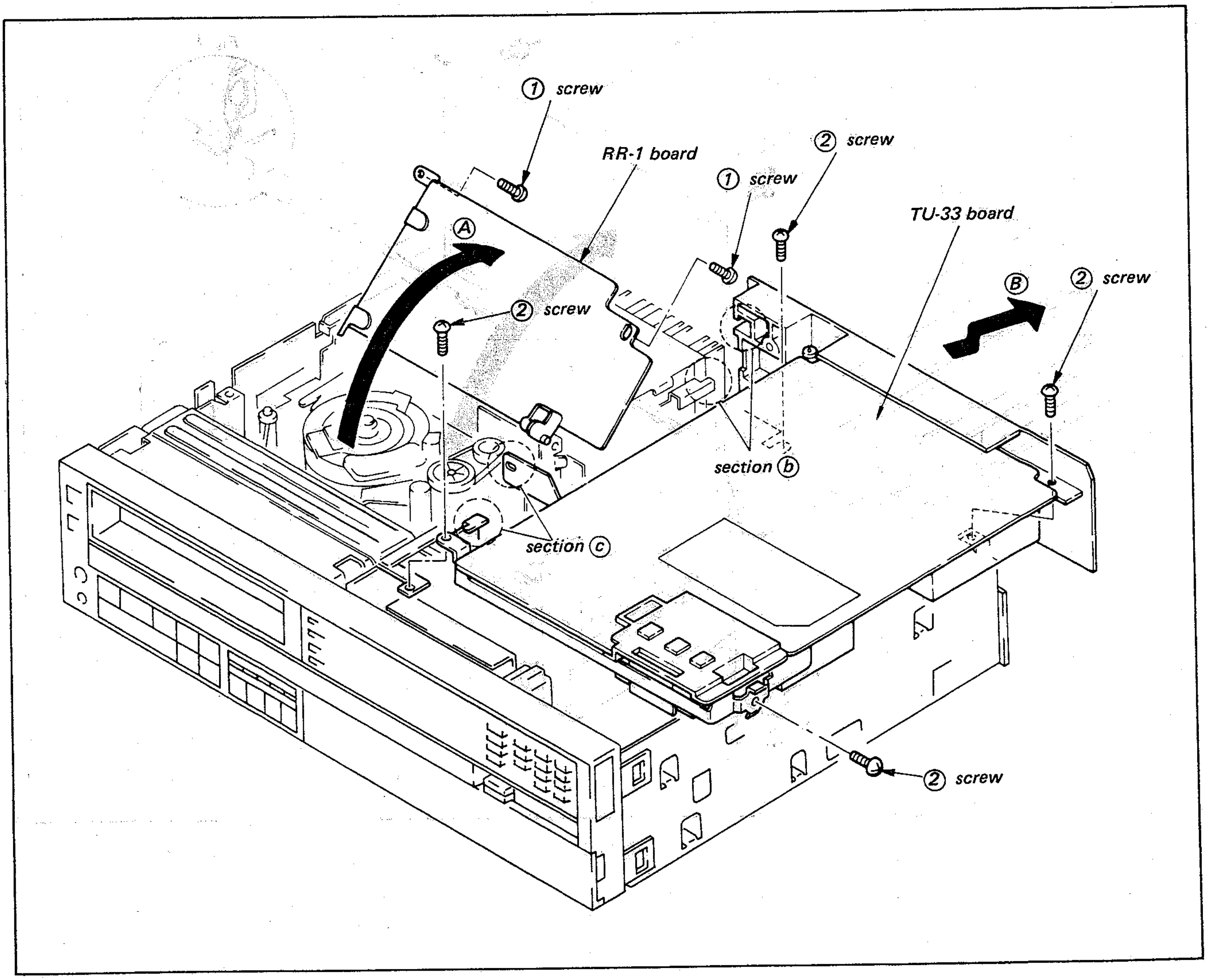

① screw
RR-1 board
② screw
① screw
TU-33 board
Ⓐ
② screw
Ⓑ
② screw
section ⓑ
section ⓒ
② screw

Fig. 1-4.

1-5. OPERATION WITHOUT CASSETTE COMPARTMENT INSTALLED

1-5-1. Completing Threading without Cassette, Under FL Cassette Compartment Removed (This state is called "STOP mode" in this guide.)

1) Place the FL cassette compartment on top of the TU-33 board. (Be sure to spread an insulation sheet over the board.)

Note: See 3-6 for removal of FL cassette compartment.

2) Connect the two connector harnesses. (SS-14 board CN616 and RR-1 board CN302)

3) Insert a cassette into the FL cassette compartment and push in the direction of arrow Ⓐ.

[To EJECT in this state]

1) Press EJECT button.

2) Just before completion of unthreading, T slider assembly pushes unlock plate assembly in the direction of arrow ⓐ.

3) Since the unlock plate assembly is incomplete, because of the separated FL cassette compartment, the unlock coupling plate under this compartment should be pulled toward ⓑ. This must be done during the final moments of unthreading to EJECT the cassette.

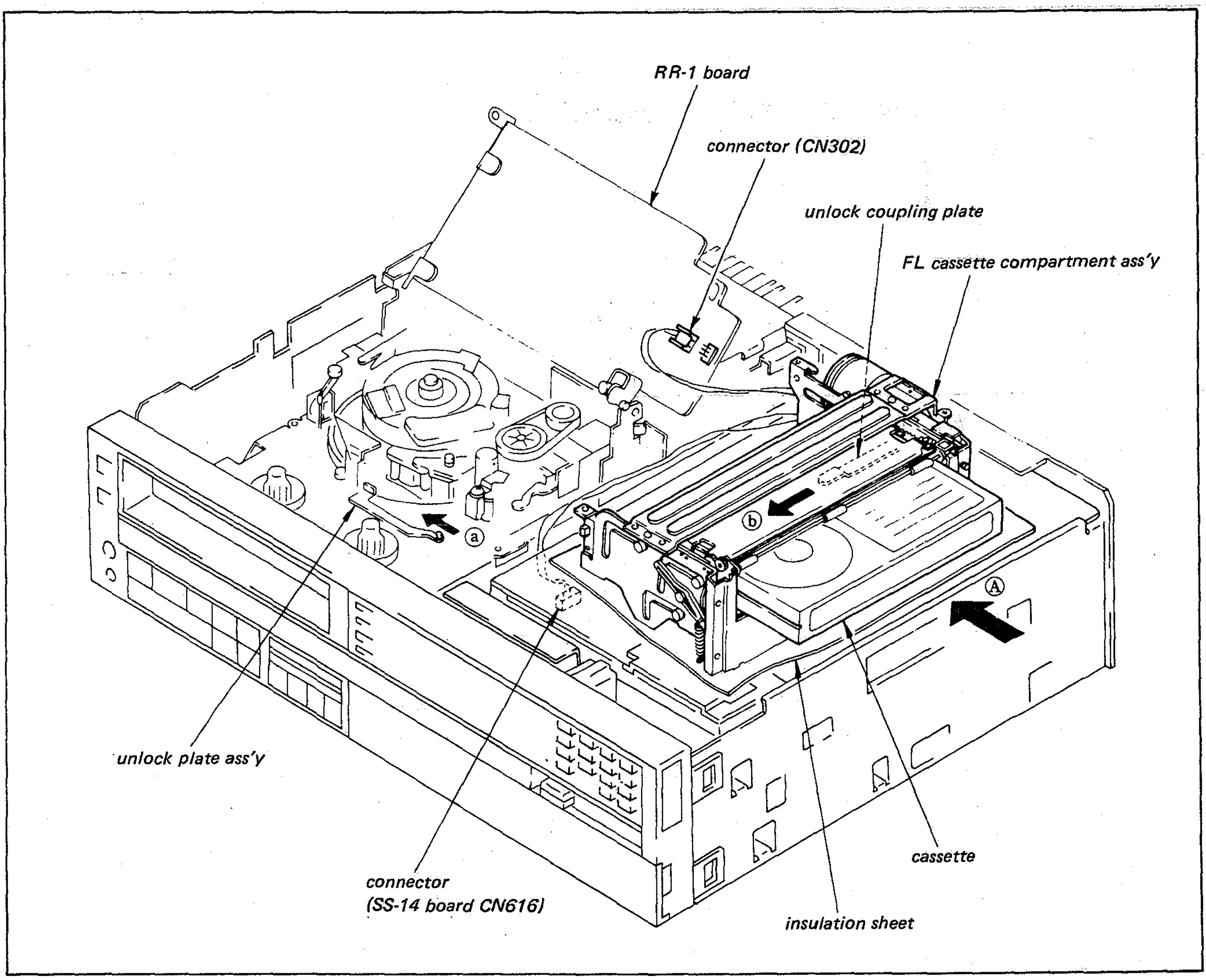

RR-1 board
connector (CN302)
unlock coupling plate
FL cassette compartment ass'y
ⓑ
ⓐ
Ⓐ
unlock plate ass'y
connector
(SS-14 board CN616)
cassette
insulation sheet

Fig. 1-5.

1-5-2. Playback without Cassette Installed

Press the playback button after setting the STOP mode in step 1-5-1.

1-5-3. Record Mode without Cassette Installed

1) Threading as explained in 1-5-1 and press the record proof switch as shown in Fig. 1-6.
2) Hold this switch down and press PAUSE button while pressing PLAY button.
3) This is PLAY PAUSE mode. Next press REC button to achieve REC PAUSE mode.
4) Press the PAUSE button to release PAUSE mode, and REC mode results.

Note: Fast-forward and rewind are not possible without a cassette installed.

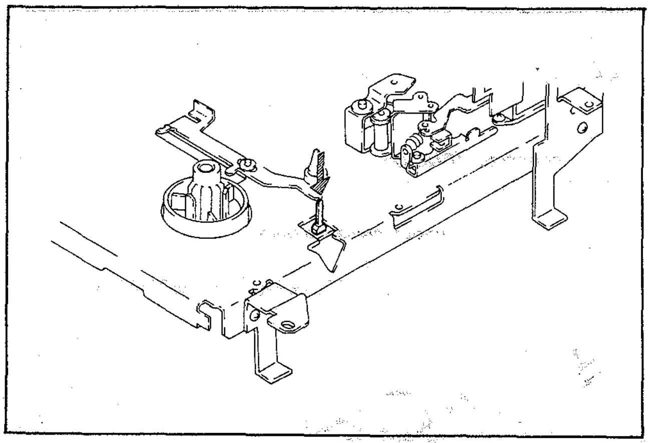


Fig. 1-6.

1-6. REMOVAL OF POWER BLOCK

1) Remove the two knobs ① (V synchronous).
2) Remove the four screws ②.
3) Remove the rear panel in the direction of the arrow Ⓐ.
4) Remove the four screws ③.
5) Remove the POWER block in the direction of the arrow Ⓑ.

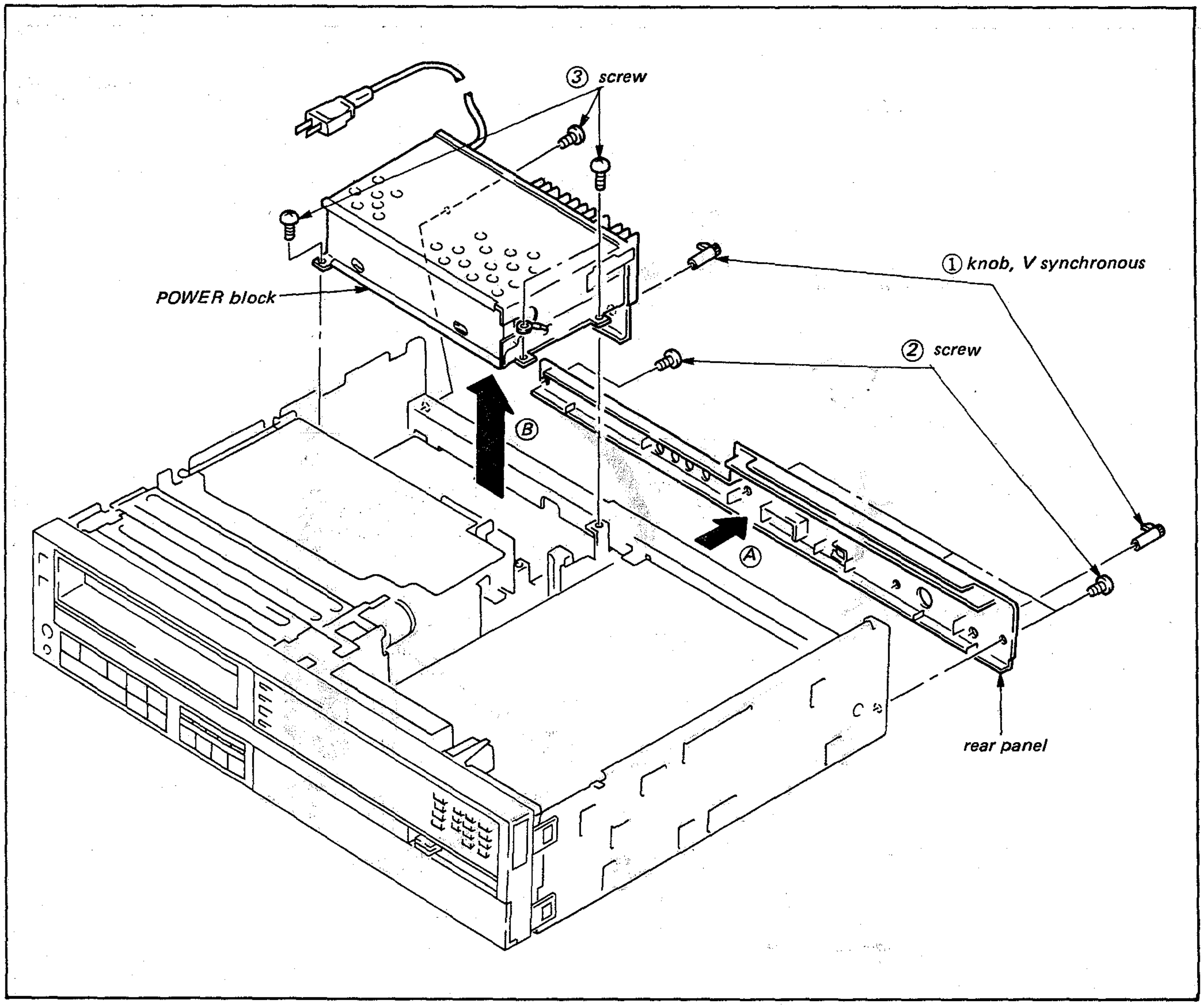

③ screw
① knob, V synchronous
POWER block
② screw
Ⓑ
Ⓐ
rear panel

Fig. 1-7.

1-7. OPENING OF VI-1 BOARD

1) Place the set upright with the left side down.
2) Remove the two screws ①.
3) Remove the lid shield case ②.
4) Disconnect the connector③ .
5) Open VI-1 board in the direction of the arrow Ⓐ and brace with the video cassette tape.

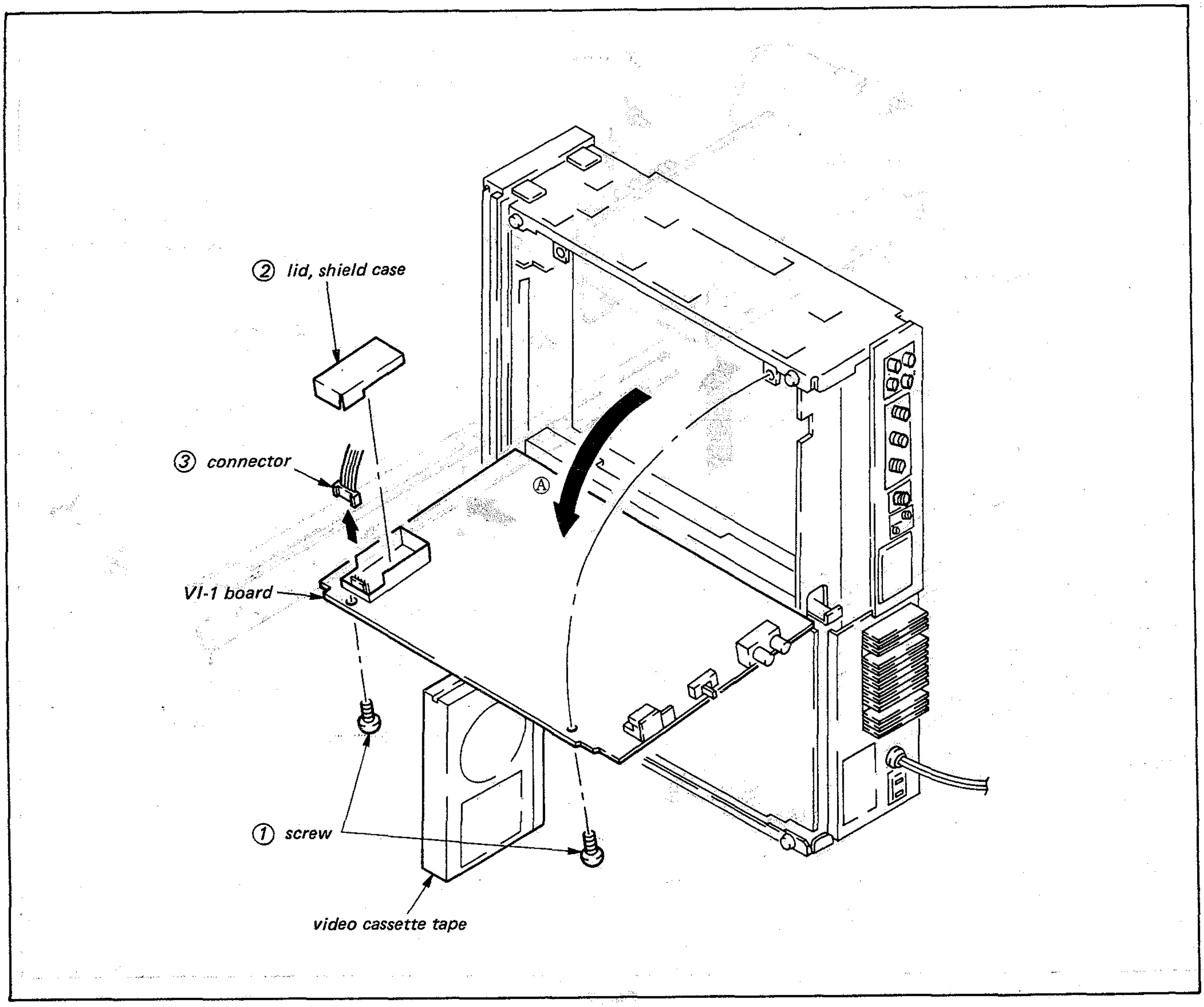

② lid, shield case
③ connector
Ⓐ
VI-1 board
① screw
video cassette tape

Fig. 1-8.

1-8. OPENING OF AS-7W BOARD

1) Place the set upright on it's left side.
2) Remove the two screws ①.
3) Open AS-7W board in the direction of the arrow Ⓐ and brace with the video cassette tape.

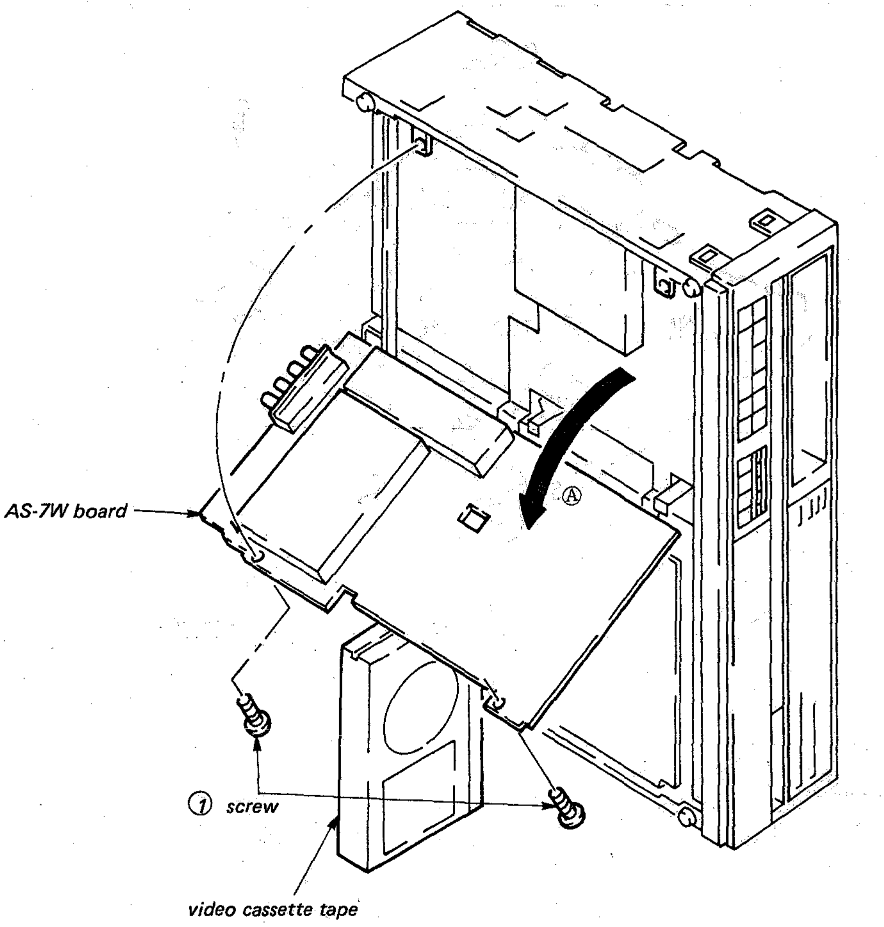

AS-7W board
Ⓐ
① screw
video cassette tape

Fig. 1-9.

1-9. REMOVAL OF MECHANISM CHASSIS

1) Disconnect the connector (CN1 12P) from RL-14 board.
2) Disconnect the connector (CN2 12P) from RL-14 board.
3) Disconnect the connector (CN001 3P) from SS-14 board.
4) Disconnect the connector (CN003 6P) from SS-14 board.
5) Disconnect the connector (CN301 4P) from SS-14 board.
6) Disconnect the connector (CN303 4P) from SS-14 board.
7) Disconnect the connector (CN304 2P) from SS-14 board.
8) Disconnect the connector (CN306 3P) from SS-14 board.
9) Disconnect the connector (CN307 4P) from SS-14 board.
10) Disconnect the connector (CN301 4P) from AS-7W board.
11) Disconnect the connector (CN302 3P) from AS-7W board.
12) Disconnect the connector (CN3 10P) from RP-10 board.
13) Remove the five screws ① and Mechanical Chassis.

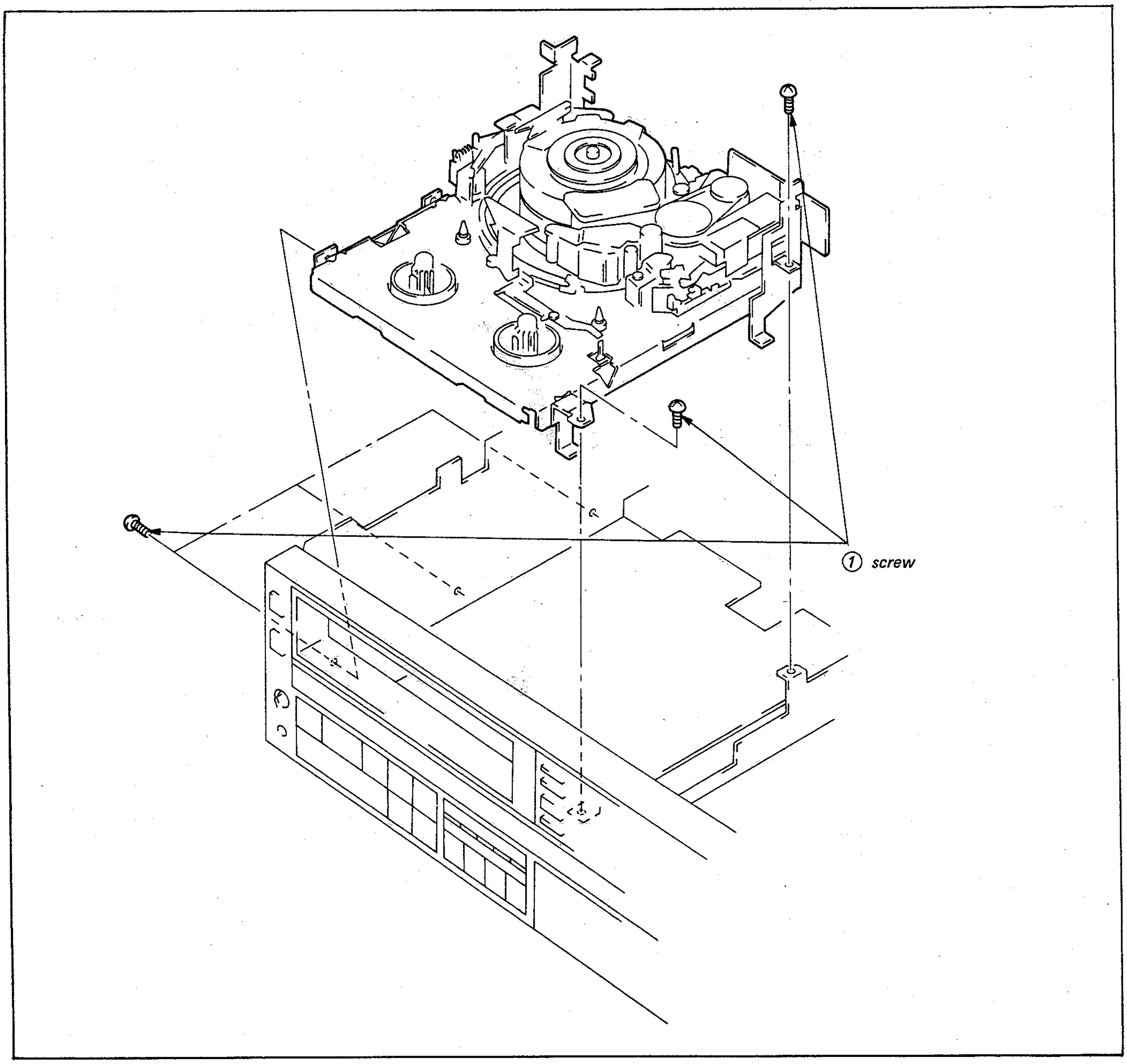
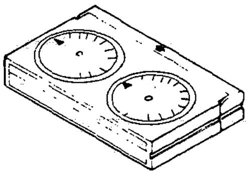


Fig. 1-10.

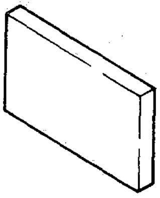
1-10. LIST OF SERVICE UNITS AND TOOLS

Ref. No.	Name	Part No.	Fixture No.
J-1	Forward-Back Tension Measurement Tape	J-6080-003-C	SL-0003C
J-2	Parallel Plate	J-6086-750-A	SL-0657
J-3	Small Adj. Mirror Spare Mirror	J-6080-029-A J-6080-030-1	SL-5052
J-4	Alignment Tape	8-969-995-82	KR5-1M
J-5	Cleaning Fluid	Y-2031-001-0	
J-6	Thickness Gauge	9-911-053-00	
J-7	Cleaning chamois	Z-034-697-00	
J-8	Head Demagnetizer		
J-9	Lapping Tape	8-888-004-00	
J-10	Dihedral Adj. Screw	J-6080-013-1	SL-0013

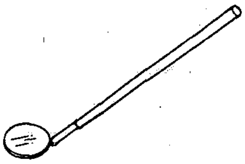
J-1



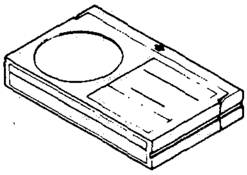
J-2



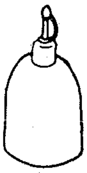
J-3



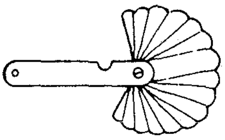
J-4



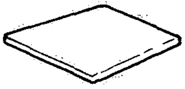
J-5



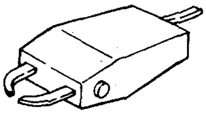
J-6



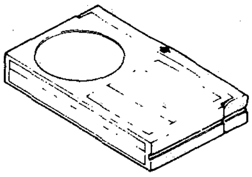
J-7



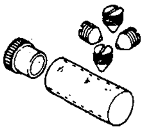
J-8



J-9



J-10



SECTION 2
PERIODIC CHECK AND MAINTENANCE

The following maintenance and periodic checks are recommended to ensure optimum machine function and performance and to prolong machine and tape life.

2-1. MAINTENANCE AFTER REPAIR

Carry out maintenance work for the following items after repairing the machine regardless of the period of use.

2-1-1. Rotary Head Disc Assembly

1) Place a piece of chamois (tool Ref. No. J7) soaked in cleaning fluid (tool Ref. No. J5) lightly against the rotary drum assembly and clean the rotary head disc assembly by slowly rotating it by hand. (Important-Do not clean by rotating with the motor on.)

2) Do not clean the head tip by moving the chamois in a vertical direction. This may damage the head tip.

2-1-2. Cleaning of the Tape Transportation System

Clean the tape contact surfaces, such as the tape guide, drum assembly surfaces, capstan, and pinch roller using cleaning piece etc. soaked in cleaning fluid.

2-1-3. Cleaning of the Drive System

Clean the driving elements (threading motor belt, reel base surfaces, etc.) using a cloth soaked in cleaning fluid.

2-2. PERIODIC CHECK ITEMS

Carry out maintenance checks for the following items depending on the duration of use.

Maintenance & Check		Replacement Part No.	500	1,000	1,500	2,000	2,500	3,000	3,500	4,000	4,500	5,000	Remarks
			Operating Hours (H)										
Tape Trans-portation System	Cleaning of tape transportation system		○	○	○	○	○	○	○	○	○	○	This cleaning must be done whenever a repair is made.
	Cleaning and degaussing of ACE ass'y		○	○	○	○	○	○	○	○	○	○	
	Cleaning & degaussing of video disk ass'y		○	○	○	○	○	○	○	○	○	○	The life of the head varies, depending on operational conditions and method.
Driving System	Replacement of threading DC motor belt		○	○	○	○	○	○	○	★	○	○	• This cleaning must be done whenever a repair is made. • Replacement must be done depending on operating hours on the table, or every two years.
	Cleaning of iron core and opening of solenoid		–	–	–	○	–	–	–	○	–	–	Wipe iron core and opening of solenoid with dry cloth.
Performance Confirmation	Abnormal sound		☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	Adjust or replace the section which causes abnormal sound.
	Measurement of FWD back tension		–	☆	–	☆	–	☆	–	☆	–	☆	Confirmation must be made according to section Specified value: 45 ~ 48 g·cm (When measured with torque cassette tape)
	Confirmation of brake system		–	☆	–	☆	–	☆	–	☆	–	☆	Confirmation must be made according to section
	Confirmation of record & playback functions		☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	Perform the confirmation whenever repair is made.

○ Cleaning ★ Replacement ☆ Confirmation

Note: When overhauling, refer to the above for part replacement.

SECTION 3
CHECK, ADJUSTMENT, AND REPLACEMENT PROCEDURES

3-1. REPLACEMENT OF ROTARY HEAD DISC ASSEMBLY

3-1-1. Removal of Rotary Head Disc Assembly

1) Remove the two screws ① holding the damper assembly and remove it.

2) Remove the hexagonal socket bolt ② with an allen wrench.

3) Remove the two screws ③ and remove the upper drum assembly.

Note: Remove the upper drum, without moving the adjust plate. Be very careful not to move the adjust plate, or tape path will be affected.

4) Unsolder the rotary head disc relay board. (four blue and white lead wires)

5) Remove the two screws ④ and remove the rotary head disc assembly.

Note: Be very careful not to touch the head tip, or touch it against anything.

3-1-2. Replacement

1) Position the rotary head disc paying attention to the direction of the blue and white lead wires.

2) Tighten the screws ④ and solder the lead wires.

Note: Solder securely, being careful not to break the lead wires.

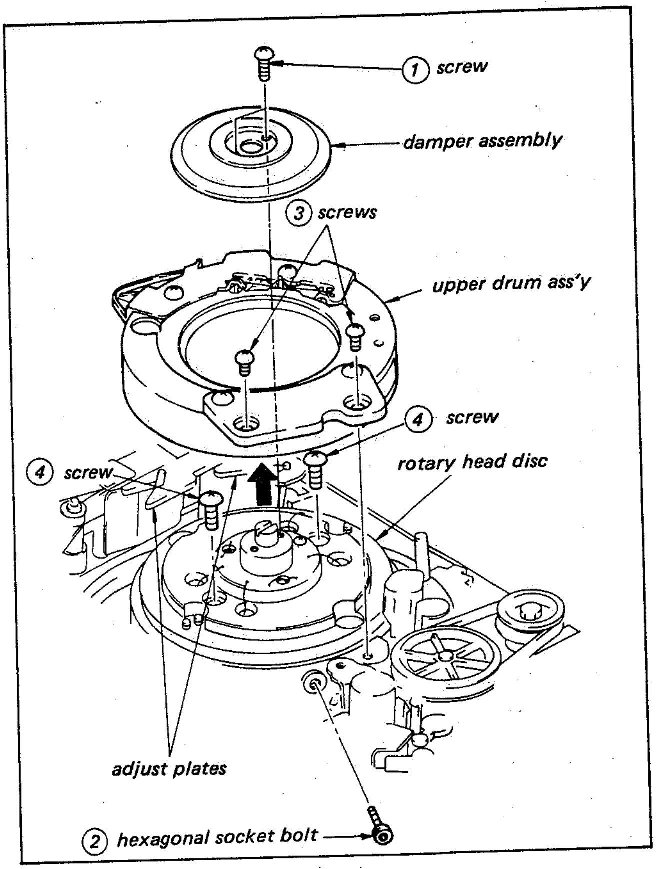
3) Be careful not to move the adjust plate, as when removing the upper drum. Lightly tighten the screws ③, clamp hexagonal socket bolt ②, then securely tighten the screws ③.

Caution: Be careful not to touch the head tip when replacing the drum.

Note: When replacing the rotary drum head, it may be difficult to remove it from the head disc. In this event, follow the procedure below. (Fig. 3-2)

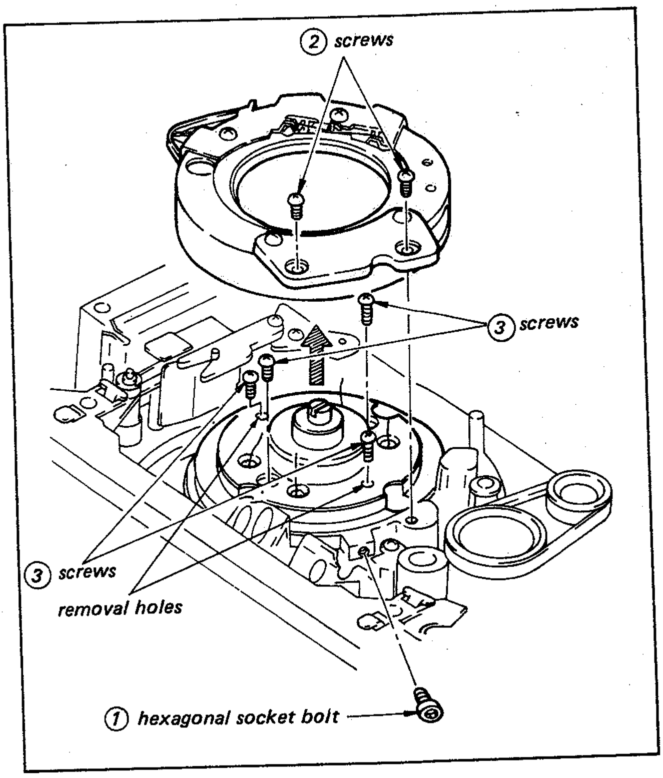
i) Remove the screws ③ on the head disc.

ii) At this point, if it is difficult to remove the head disc, place the two screws removed in step i) in the two holes 90° away from the removal holes, and screw them in alternately, and gradually. The head disc will be lifted up by the force of the screws and can be removed easily.



① screw
damper assembly
③ screws
upper drum ass'y
④ screw
rotary head disc
④ screw
adjust plates
② hexagonal socket bolt

Fig. 3-1.



② screws
③ screws
③ screws
removal holes
① hexagonal socket bolt

Fig. 3-2.

3-2. VIDEO HEAD DIHEDRAL ADJUSTMENT

Generally this adjustment is not necessary except after video head disc replacement. (Video head discs for repair and replacement are precision adjusted using a microscope, and there is virtually never a need for readjustment.)
When determining the appropriate video head angle, play back an alignment tape. Make sure the tracking control knob is set at the center click position. When the check is made at a position other than the center click (tracking is off), the pictures will be played back as if the angle is wrong even if it is correct.
Be sure the ACE assembly position adjustment is completed (refer to "Tape Path Adjustment") before making this adjustment.

[Checking Method]

Play back the βII monoscope signal section of the alignment tape after setting the tracking control knob at the center click position. Verify that only one monoscope perpendicular line is played back immediately underneath the switching pulse, and not two lines. two lines.
If only one perpendicular line can be seen, the angle is correct, and no adjustment is needed.
If there are two, adjust as follows.

[Adjustment Procedure]

1. As shown in Fig. 3-3, screw two dihedral adjustment screws (Tool Ref. No. J-10) in the holes opposite side of blue lead wires from the video head so that the heads of screws are on the same level as the surface of rotary video head disc.
   (If not screwed in sufficiently, the heads of the adjustment screws hit the upper drum, and the video head disc no longer rotates. Conversely, if they are screwed in too far, the head base moves, and the angle of the video head shifts considerably.)

   Caution: The white lead wire is a reference wire and should never be moved.
2. Screw in either one of the two adjustment screws until it feels tight. Additional tightening beyond this position moves the video head and so the angle can be adjusted.
3. Play back the βII monoscope signal section of the alignment tape and verify the angle. If the angle of the perpendicular line is larger than before adjustment, screw the adjustment screw counterclockwise to loosen and adjust the screw on the other side.
4. After adjusting, unscrew and check again.

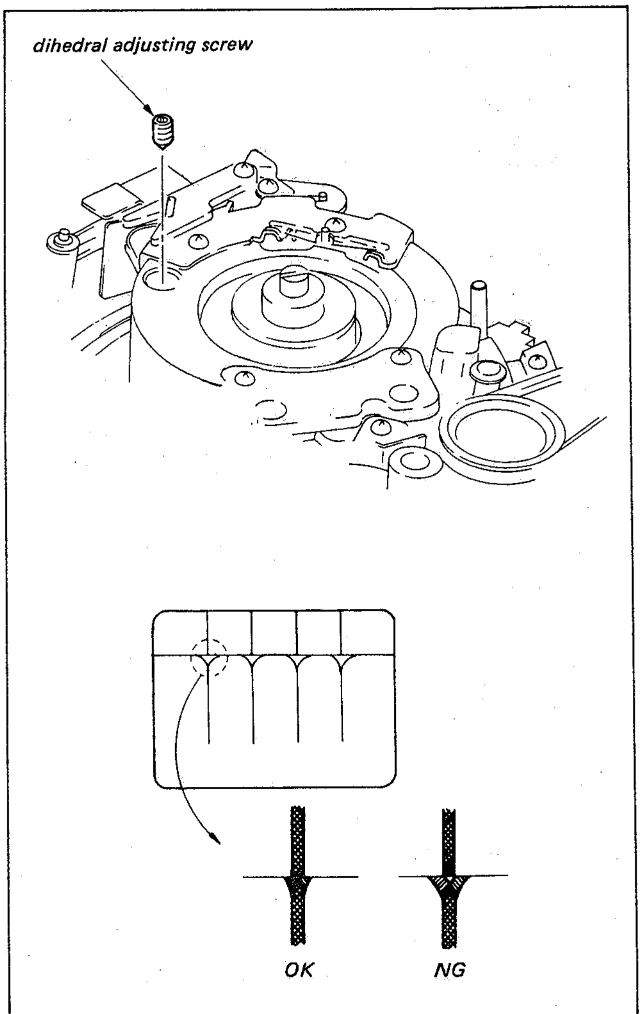


Fig. 3-3. Video head dihedral adjustment

3-3. REPLACEMENT AND ADJUSTMENT OF DRUM ASSEMBLY

3-3-1. Replacement

1) Measure and record the two gaps between the upper drum tape holding section and the adjust plate (Ⓐ in Fig. 3-4). (Do not forget to do this, as the adjust plate mounting position affects the tape path.)

2) Remove the screws ① shown in Fig. 3-4. Remove the tape guide ground plate and adjust plates 1 and 2 .

3) Remove the connector, ground terminal, and three drum mounting screws from the rear of the chassis and remove the drum assembly body.

4) Re-assemble the parts in reverse order.

5) Perform to "Tape Path Adjustment" after replacing the drum.

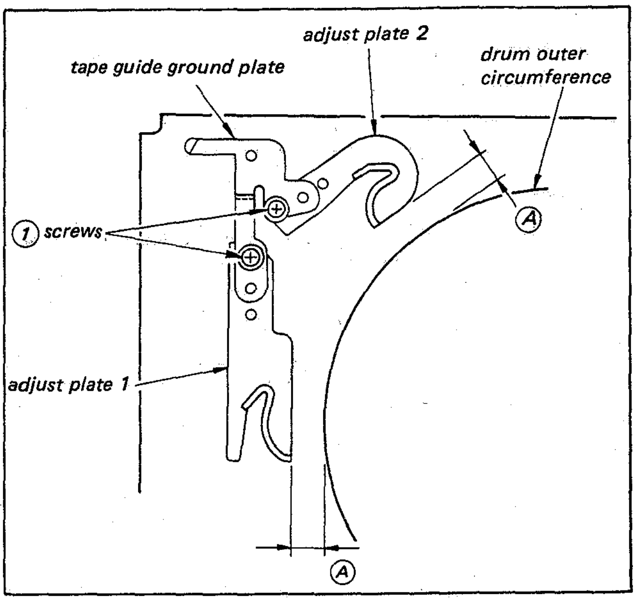

adjust plate 2
tape guide ground plate
drum outer circumference
① screws
Ⓐ
adjust plate 1
Ⓐ

Fig. 3-4.

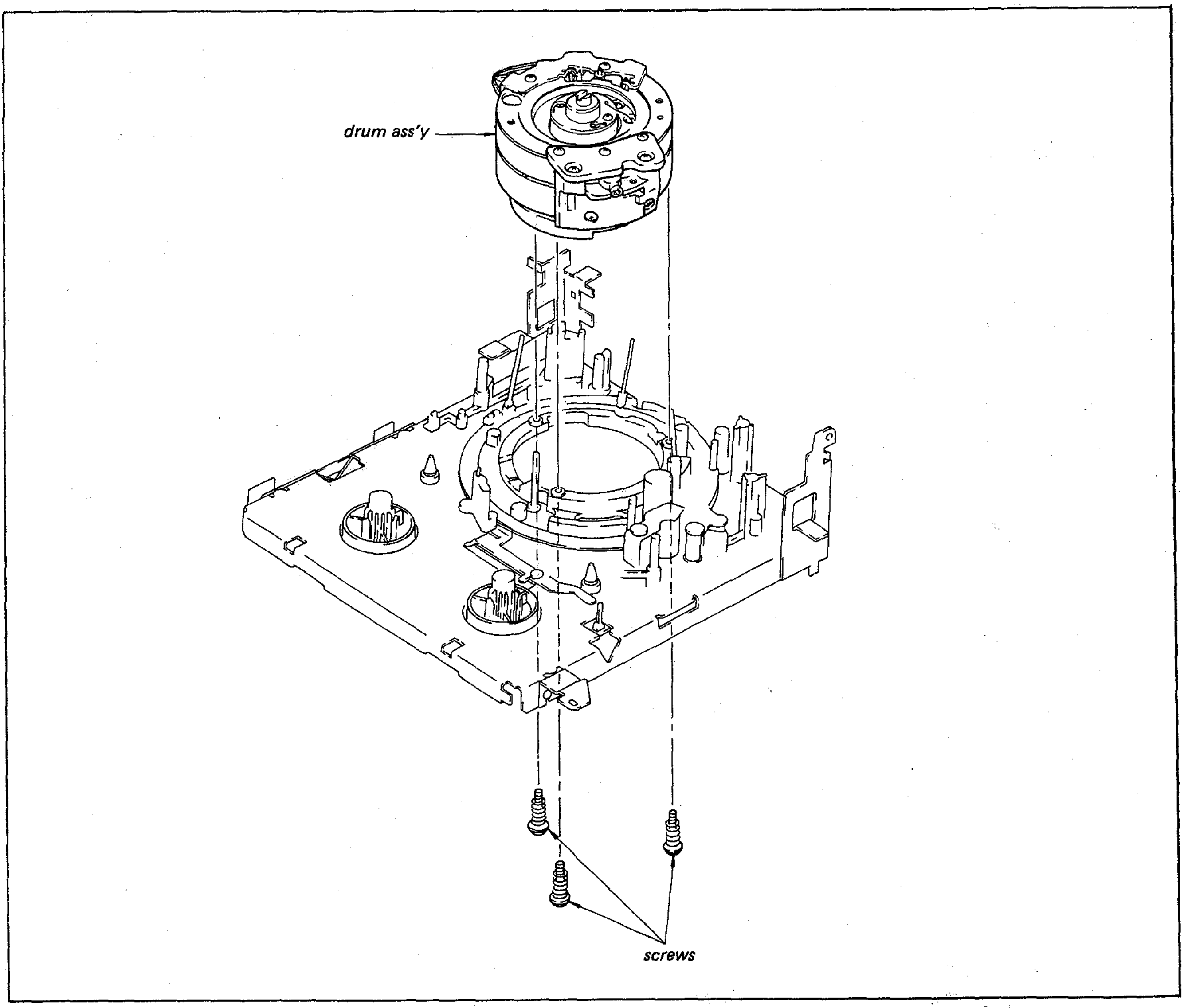

drum ass'y
screws

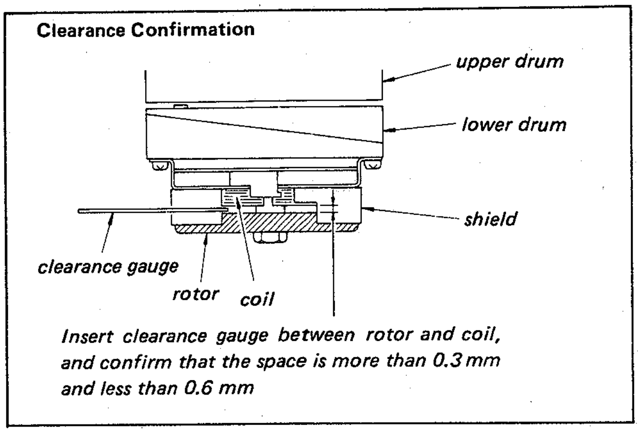
Fig. 3-5.

3-3-2. Motor Clearance Adjustment when Replacing Drum Assembly

The new drum assembly must be adjusted so that the clearance between the rotor and coil is 0.3 – 0.6 mm. (See Fig. 3-6)

[Procedure]

1) When re-assembling the drum, use the spacer which was removed and confirm that the 0.3 mm side of the clearance gauge included with the repair drum can be inserted, and that the 0.6 mm side cannot be inserted.
2) If this specification is not satisfied, dispose of the old spacer and use the spacers (0.3 mm x 4) included with the new drum.


Clearance Confirmation

upper drum
lower drum
shield
clearance gauge
rotor
coil

Insert clearance gauge between rotor and coil, and confirm that the space is more than 0.3 mm and less than 0.6 mm

Fig. 3-6.

[Removal of Stator, Rotor] (Fig. 3-7)

1) Remove nut ① and washer ②.
2) Remove rotor ③ from stator ④.
3) Remove the two screws ⑤ and remove stator from drum body.

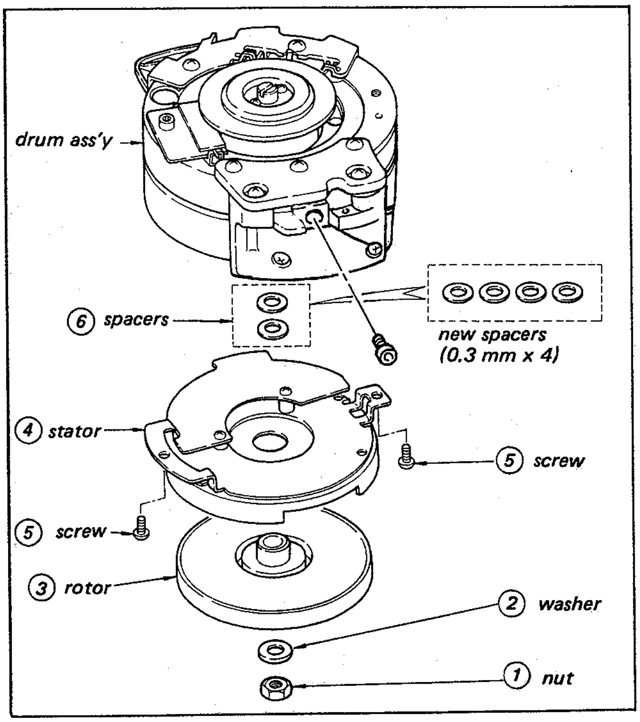

drum ass'y
⑥ spacers
⑥
new spacers
(0.3 mm x 4)
④ stator
⑤ screw
⑤ screw
③ rotor
② washer
① nut

Fig. 3-7.

3-4. REPLACEMENT AND ADJUSTMENT OF CAPSTAN MOTOR

3-4-1. Removal of the Capstan Motor (Fig. 3-8)

Remove the screws ①, ②, ③ and remove the capstan motor from the bottom of the mechanism chassis.

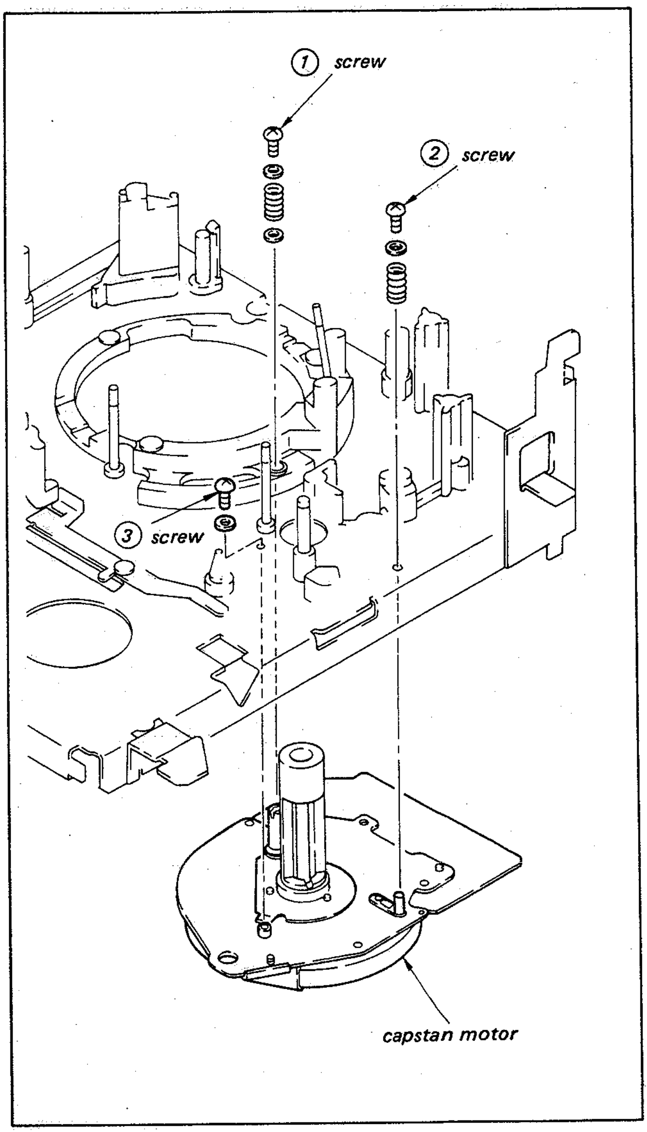

① screw
② screw
③ screw
capstan motor

Fig. 3-8.

3-4-2. Perpendicular Adjustment of Capstan Shaft

[Be sure to adjust as follows after the capstan motor has been replaced or removed]

1) Place parallel plate (Tool Ref. No. J-2) on No. 10 guide sleeve of the pinch press arm assembly perpendicularly, as shown in Fig. 3-9.
2) Loosen screw ①.
3) Rotate adjusting screw ② and align the capstan shaft perpendicularly.
4) Tighten screw ① and fix the capstan motor.
5) Adjust according to "Tape Path Adjustment".

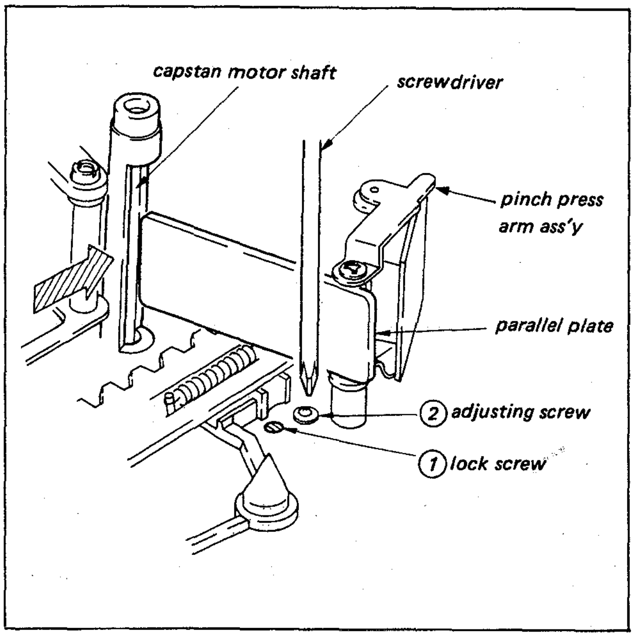

capstan motor shaft
screwdriver
pinch press arm ass'y
parallel plate
② adjusting screw
① lock screw

Fig. 3-9. Capstan motor shaft perpendicular adjustment

3-5. REMOVAL OF TENSION PICK-UP ASSEMBLY (Fig. 3-10)

1) Remove spring ① and disengage hook ② to pull out the tension pick-up assembly.
2) Disconnect the wire harness from the wire harness clamp and pull out the connector.

Caution: When replacing or removing the tension pick-up assembly, be sure to also adjust the back tension. See "Back Tension Check and Adjustment".

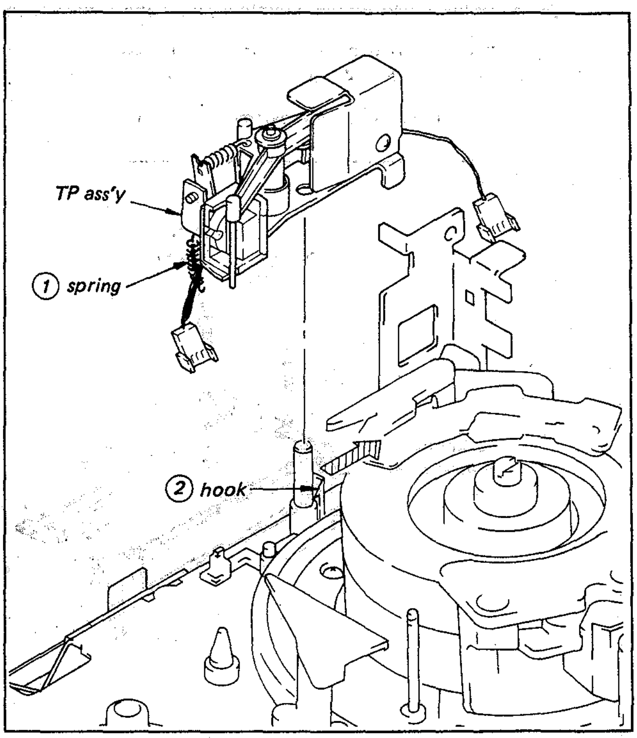

TP ass'y
① spring
② hook

Fig. 3-10.

3-6. REMOVAL OF FL CASSETTE COMPARTMENT ASSEMBLY

1) Insert a cassette and set cassette down state.
2) Unscrew the two front mounting screws on the FL cassette compartment assembly.
3) EJECT the cassette.
4) Unscrew the remaining two mounting screws (back).
5) Remove the washer in the connecting section of the unlock plate assembly and unlock coupling plate, and remove them.
6) Disconnect the two harnesses on the FL cassette compartment assembly. (SS-14 board CN616, RR-1 board CN302)
7) Remove the FL cassette compartment assembly.

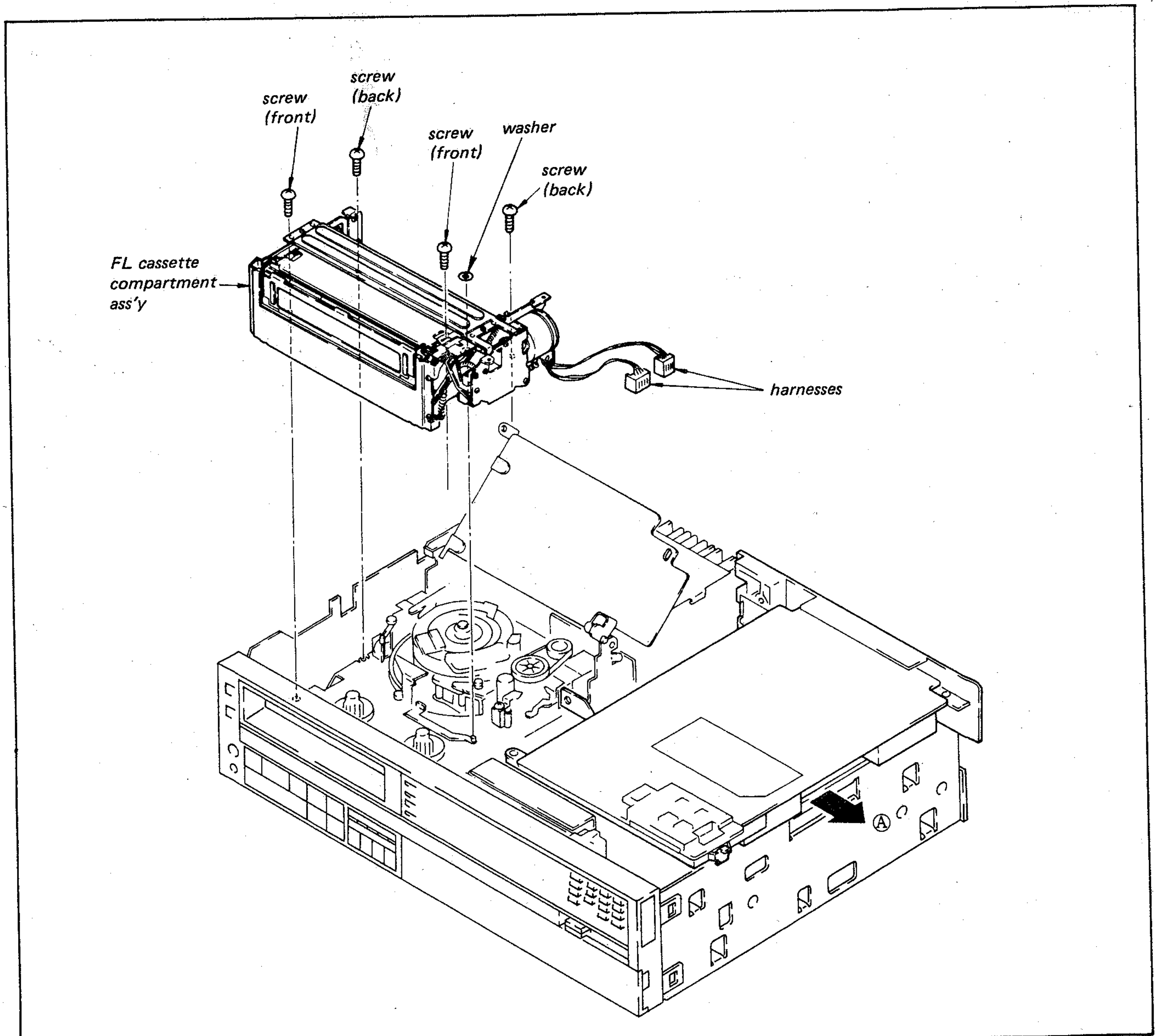

screw (front)
screw (back)
screw (front)
washer
screw (back)
FL cassette compartment ass'y
harnesses
Ⓐ

Fig. 3-11. Removal of FL cassette compartment assembly

3-7. ADJUSTMENT OF FL CASSETTE COMPARTMENT ASSEMBLY

3-7-1. Mounting of FL Cassette Compartment Assembly (Fig. 3-12, 3-13)

1) Place the FL cassette compartment assembly in position on top of the mechanism chassis (in cassette up state).
2) Put the unlock plate assembly shaft through the hole in the unlock coupling plate, and install the washer (2). (Fig. 3-13)
3) Lightly tighten the two back mounting screws of the FL cassette compartment.
4) Connect the two harnesses on the FL cassette compartment to the boards. (SS-14 board CN616, RR-1 board CN302) (See Fig. 1-5)
5) Insert a cassette and set cassette down state.
6) Lightly tighten the two front mounting screws.
7) Move the FL cassette compartment assembly back and forth over the mechanism chassis to set it in the proper position, and securely tighten the four mounting screws.

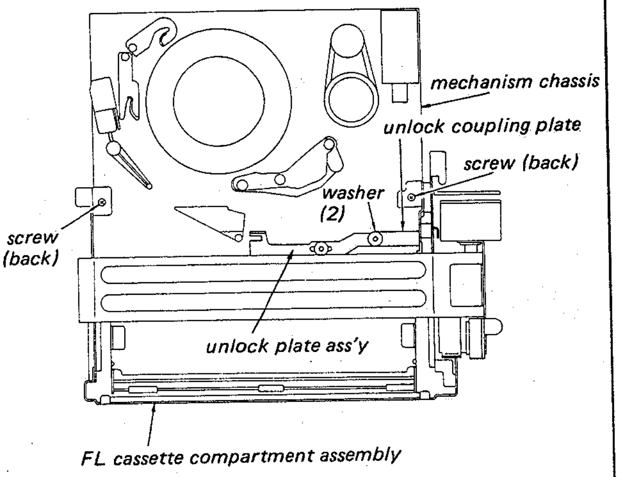

mechanism chassis
unlock coupling plate
screw (back)
washer (2)
screw (back)
unlock plate ass'y
FL cassette compartment assembly

Fig. 3-12. Installation of FL cassette compartment assembly

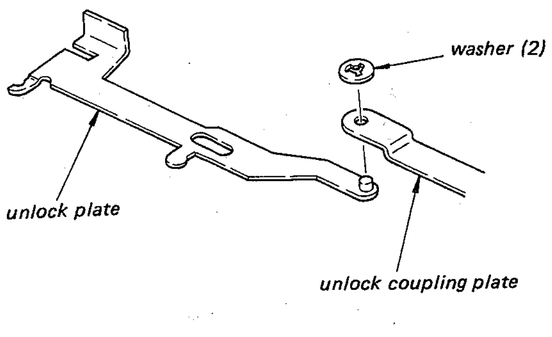

washer (2)
unlock plate
unlock coupling plate

Fig. 3-13. Installation of unlock coupling plate

3-7-2. Check and Adjustment of Cassette In Switch Operation

[Check Procedure]

Confirm that the two microswitches on the left and right go on 0.6 – 1.2 mm before the cassette reaches its final position when inserted in the FL cassette compartment assembly.

[Adjustment Procedure]

Loosen the screw on the microswitch and move the microswitch in the directions of the arrows.

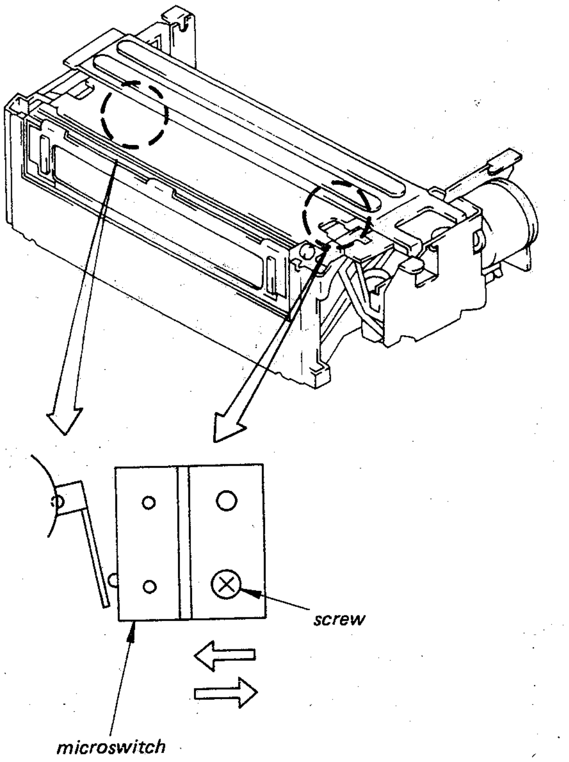

screw
microswitch

Fig. 3-14.

3-7-3. Check and Adjustment of Cassette Up Switch Operation

[Check Procedure] (refer to Fig. 3-15)

Confirm that the microswitch goes on between when the UP lock assembly goes over the guide roller and before it drops down when the FL cassette compartment assembly motor is rotated slowly in cassette up direction.

[Adjustment Procedure] (refer to Fig. 3-16)

Loosen the screw on the microswitch and move the switch up and down to adjust.

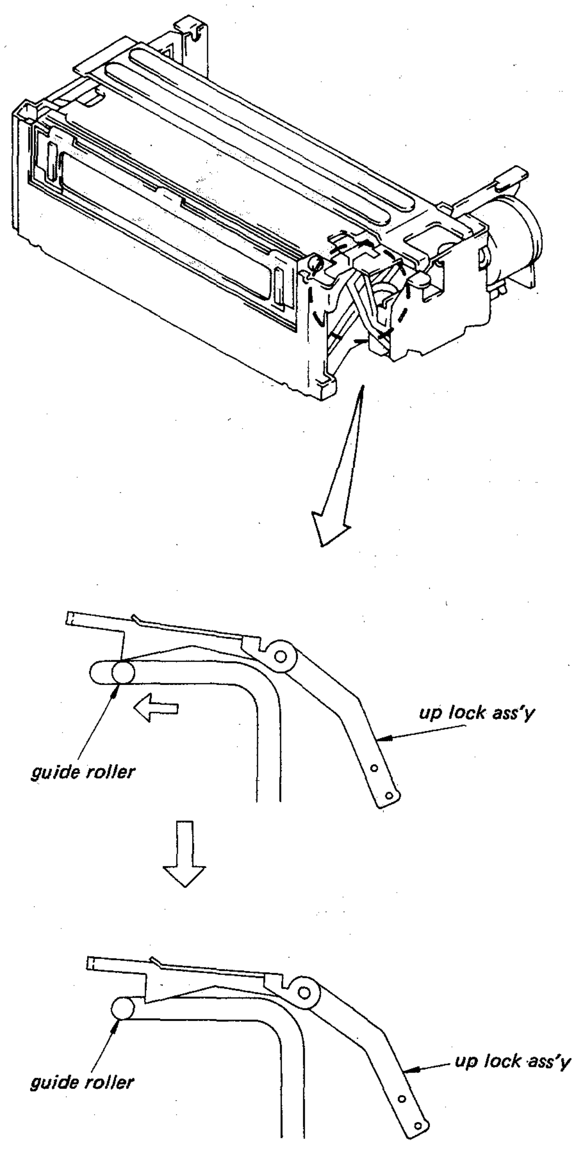

up lock ass'y
guide roller
up lock ass'y
guide roller

Fig. 3-15. Up lock ass'y movement

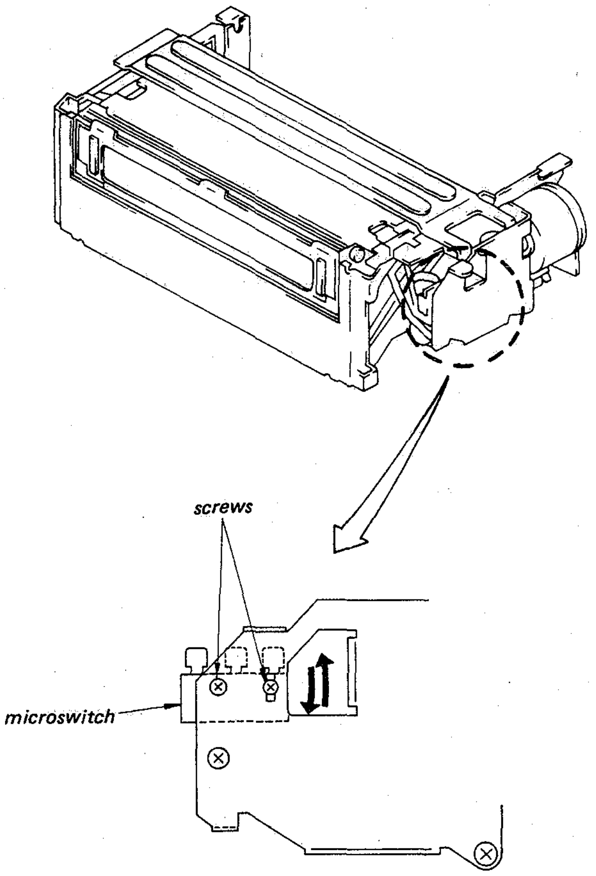

screws
microswitch

Fig. 3-16. Microswitch adjustment

3-7-4. Check and Adjustment of Cassette Down Switch Operation

[Check Procedure]

1) In cassette down state, confirm that the gap between the front edge of the lock plate assembly and the groove is 0.7 – 1.0 mm.

2) Next, move the lock plate assembly slowly in opposition to the spring, and confirm that when the microswitch switches, the gap between the front edge of the lock plate and the groove is more than 1.5 mm.

[Adjustment Procedure]

Loosen the screw on the CD adjust plate, and move the plate in the direction of the arrow to adjust.

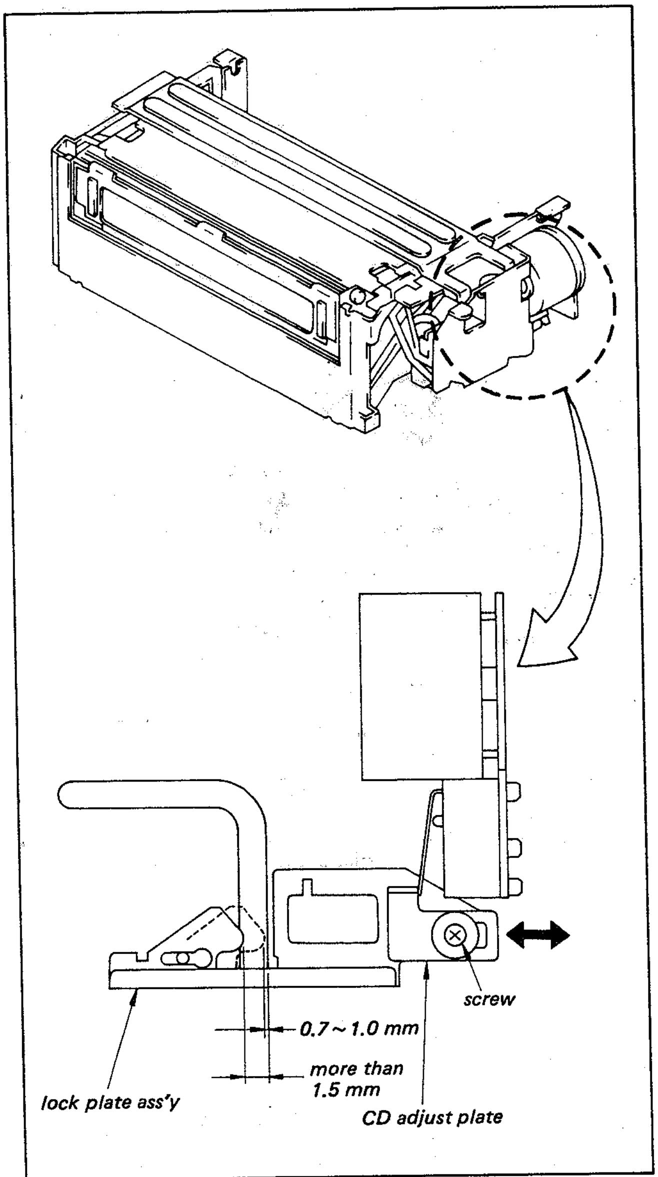


Fig. 3-17. Cassette down switch position adjustment

3-7-5. Check and Adjustment of Cassette Door Assembly and Rail Clearance

[Check Procedure]

Confirm that the clearance between cassette door assembly roller and rail is 0.4 ± 0.1 mm when the play between the assembly and rails is all on one side.

[Adjustment Procedure]

Loosen the two screws on the right-hand rail and adjust for the proper clearance. A wire of 0.4 mm diameter (e.g. 1/8W resistor lead) inserted between the roller and rail will help simplify the procedure.

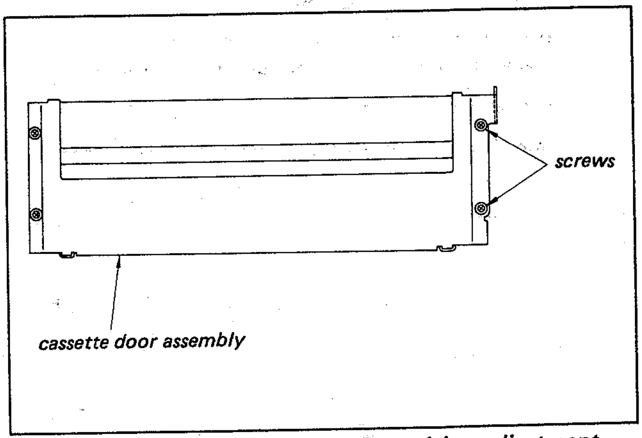


Fig. 3-18. Cassette door ass'y position adjustment

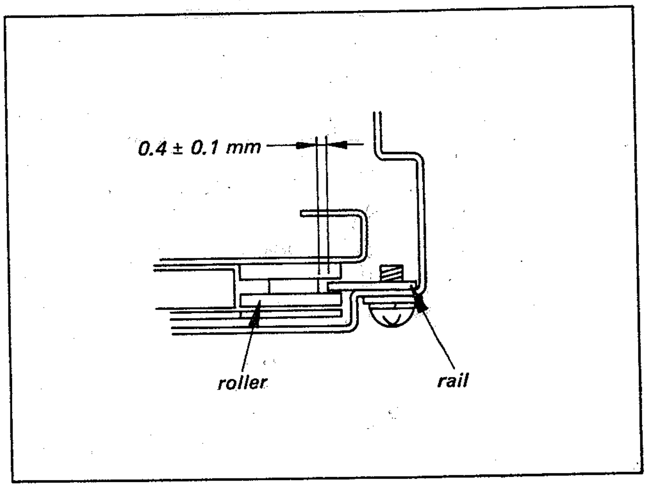


Fig. 3-19.

3-7-6. Positioning of Left/Right Gears when Assembling

[FL Cassette Compartment]

The gear system on the FL cassette compartment assembly is arranged so that the cassette holder moves parallel to the mechanism chassis at all times. Therefore, if these gears are disengaged, they must be properly engaged when re-assembling, or the cassette holder will be on a slant.

[Gear Positioning]

1) Prepare a rod about 1.5 mm thick and 200 mm long.
2) Pass the rod through the hole in the cassette holder assembly. (Perform on left and right sides.)
3) Assemble by passing the rod through the holes in gear E, gear E, guide plate R assembly and guide plate L assembly.
4) After assembling, pull the rod out from the right side.

Note: If a rod is not available, the holes can be lined up by eye.

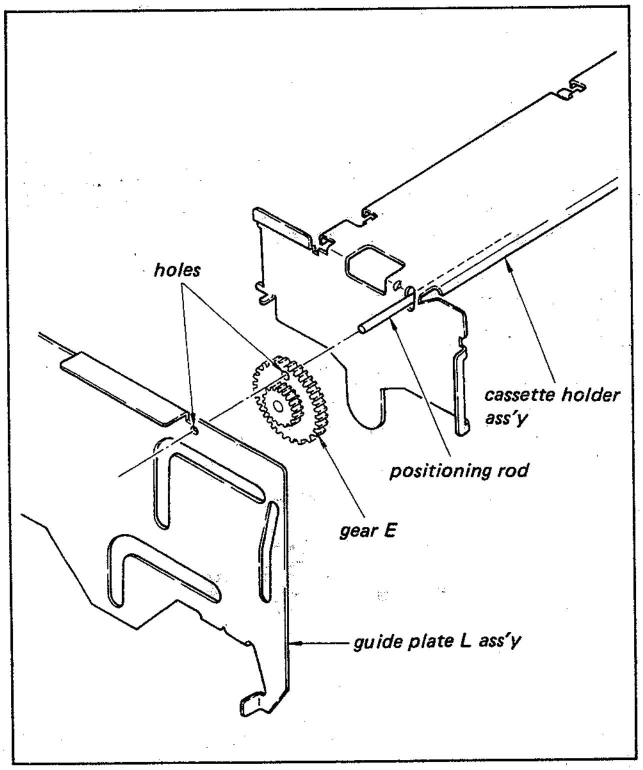

holes
cassette holder ass'y
positioning rod
gear E
guide plate L ass'y

Fig. 3-20.

3-8. REMOVAL OF REEL MOTOR

Remove the five mounting screws ① on the rear of the chassis and remove the reel motor body.

Note: The rotor section can be removed by pulling it straight up.

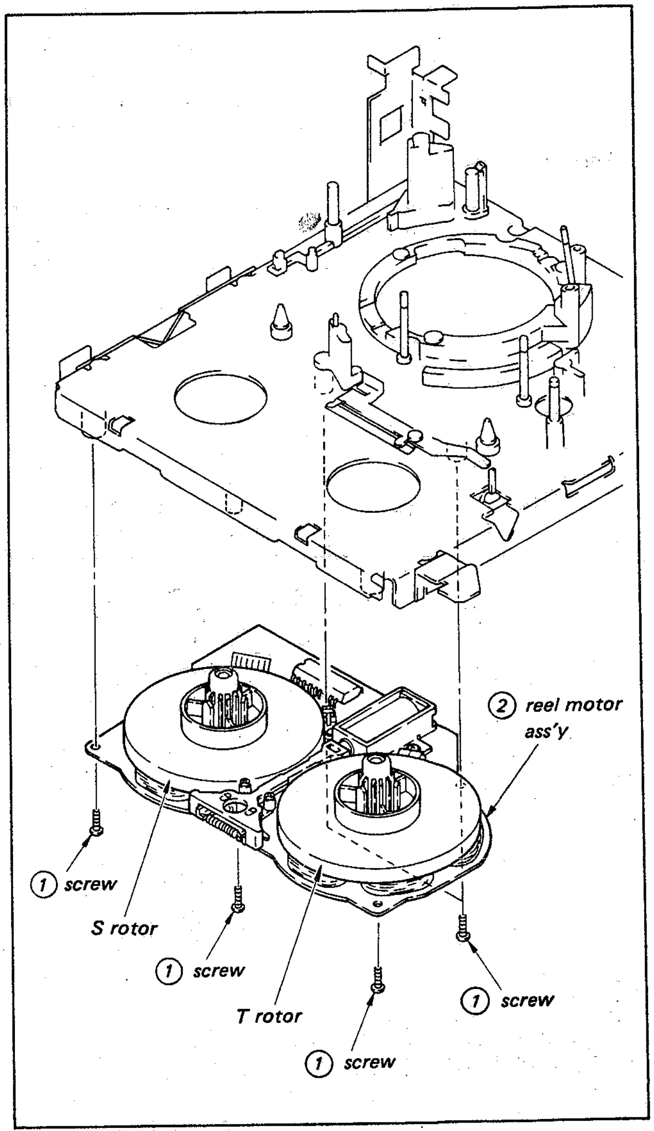

② reel motor ass'y
① screw
S rotor
① screw
T rotor
① screw
① screw

Fig. 3-21.

3-9. UNTHREADING CHECK

1) Set in STOP mode without loading a cassette.

2) Press the EJECT button and unthread. (Unthreading is complete when the T slider shaft returns slightly in the threading direction and stops after pushing the cassette compartment lock release lever.)

3) Check that the actuator for the unthreading end switch is not tripped as shown in Fig. 3-22. (Slowly rotate the threading motor by hand and verify by the click sound.) Adjust according to Paragraph 3-14-2 if necessary.

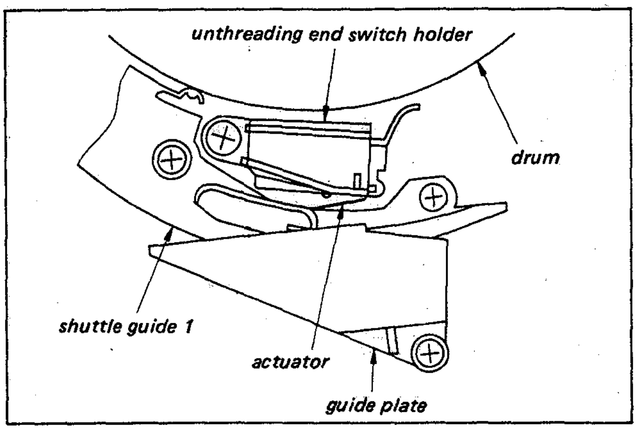

unthreading end switch holder
drum
shuttle guide 1
actuator
guide plate

Fig. 3-22. Unthreading end switch

3-10. S THREADING RING REPLACEMENT AND ADJUSTMENT

3-10-1. Preparation for Removal of S Threading Ring

Remove ACE assembly, FE Head and Threading Motor. (Fig. 3-23)

1) Remove the Phillips head continuous-thread stepped screw ①.

2) Remove the No. 6 guide nut ②, flange ③, spacer ④ and compression coil spring ⑤.

3) Remove the two guide adjusting nuts ⑥ and the ACE assembly and FE head.

Caution: ACE assembly and FE head are connected by a lead. Be careful when removing them. The compression coil spring underneath the ACE assembly does not have to be removed. However, be careful not to lose it.

4) Remove the two screws ⑦ and pull the threading motor assembly up to remove.

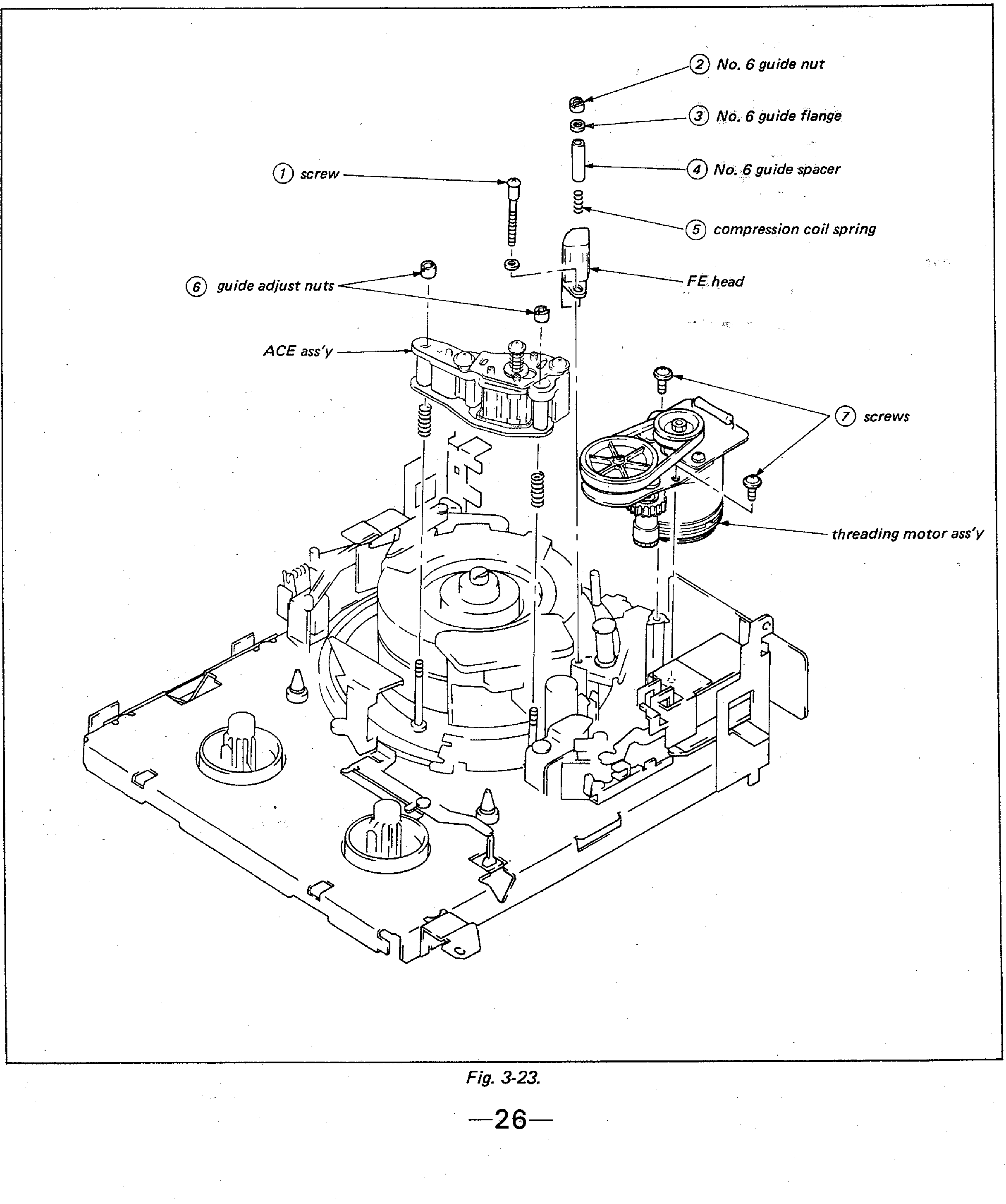

② No. 6 guide nut
③ No. 6 guide flange
④ No. 6 guide spacer
① screw
⑤ compression coil spring
⑥ guide adjust nuts
FE head
ACE ass'y
⑦ screws
threading motor ass'y

Fig. 3-23.

[Removal of Other Parts] (Fig. 3-24)

1) Measure the gap between the upper drum and adjust the plate as in the replacement of the drum assembly. (Fig. 3-4)

2) Remove the screw ① and remove the tape guide ground plate ② and adjust plate ③.

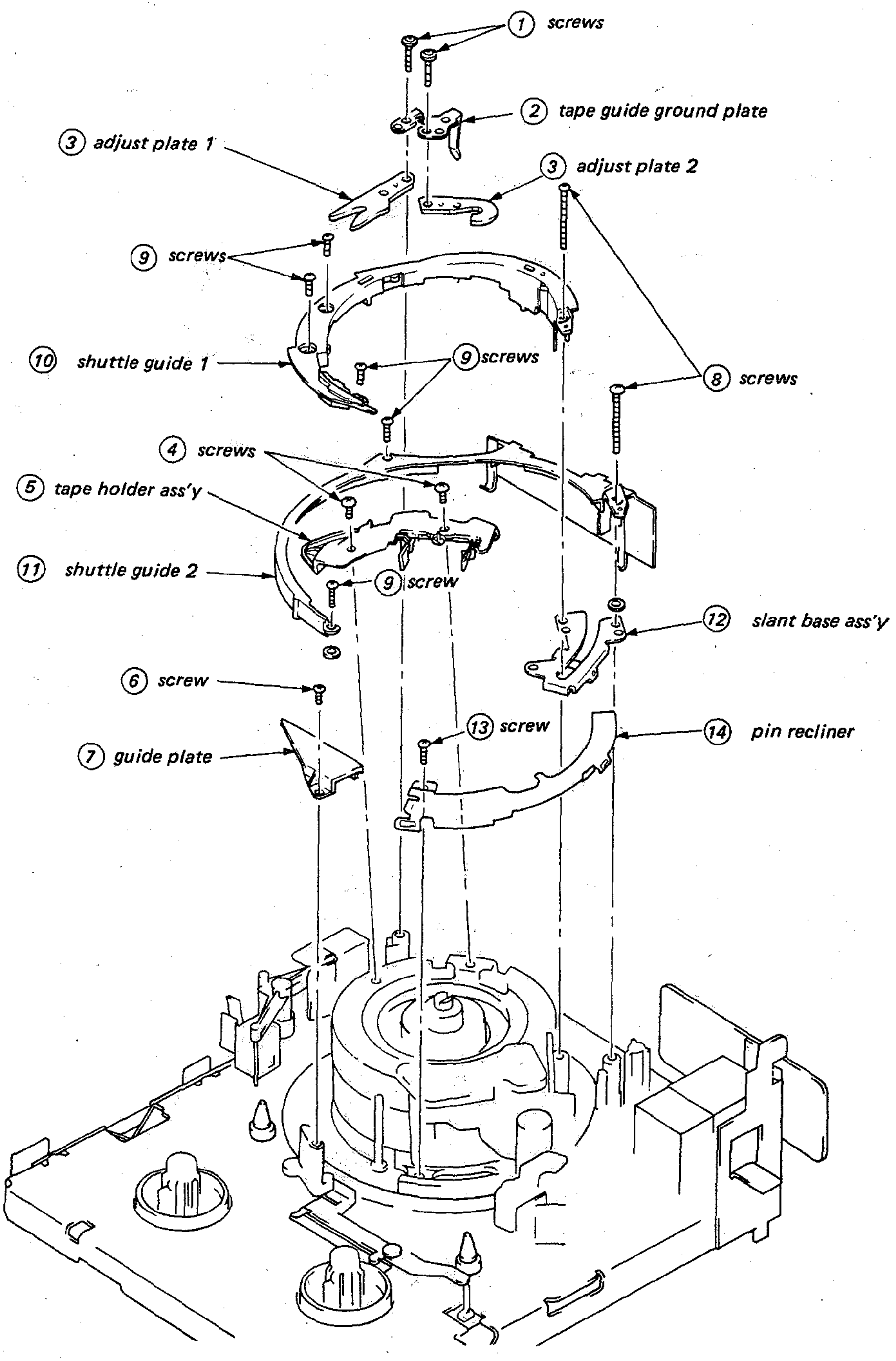
3) Remove the two screws ④ and remove the holder assembly ⑤.

4) Remove the screw ⑥ and remove the guide plate ⑦.

5) Remove the two screws ⑧ and five screws ⑨ to remove the shuttle guide 1 ⑩ and 2 ⑪, as well as the slant base assembly ⑫.

6) Remove the screw ⑬ and remove the pin recliner ⑭.

Caution: When the guide plate is removed, do not thread or unthread with the shuttle guide mounted.



① screws
② tape guide ground plate
③ adjust plate 1
③ adjust plate 2
⑨ screws
⑩ shuttle guide 1
⑨ screws
⑧ screws
④ screws
⑤ tape holder ass'y
⑪ shuttle guide 2
⑨ screw
⑫ slant base ass'y
⑥ screw
⑬ screw
⑭ pin recliner
⑦ guide plate

Fig. 3-24.

3-10-2. Removal of S Threading Ring (Fig. 3-25)

1) Remove the spring of the lock arm assembly. (Refer to Paragraph 3-14-1, Fig. 3-32)

2) Remove stop washer ① and ring roller ②.

3) Remove the UTE switch subassembly. (Refer to Paragraph 3-14-2, Fig. 3-36)

4) Remove the screw ③ and remove the ring roller adjust plate ④ and ring roller ⑤.

5) Remove the S threading ring ⑥.

Caution: Do not use the same washer twice.

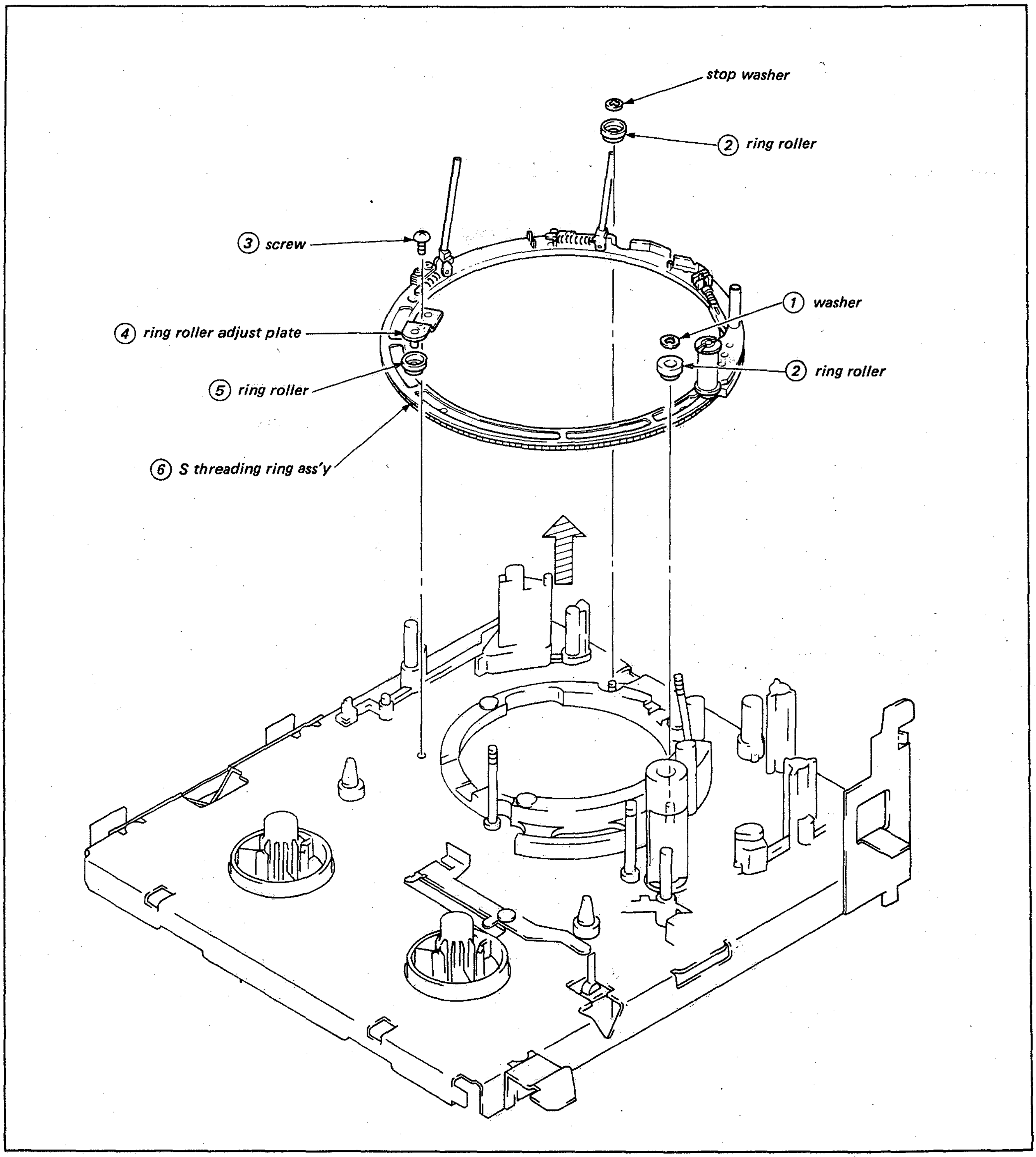

stop washer
② ring roller
③ screw
① washer
④ ring roller adjust plate
② ring roller
⑤ ring roller
⑥ S threading ring ass'y

Fig. 3-25.

3-10-3. Checking Slider Stopper Mounting (Fig. 3-26)

1) Check that the drive gear is engaged.

2) Loosen screw ①, insert a spacer (t = 0.2) between the slider gear and slider stopper, then tighten screw ① while pushing in the directions of arrows Ⓐ and Ⓑ.

Caution: Make sure to push it in the direction Ⓐ to eliminate any play. The slider stopper rotates in the direction of arrow Ⓐ when screw ① is tightened. Therefore, tighten the screw while holding it with a blade-tip screwdriver.

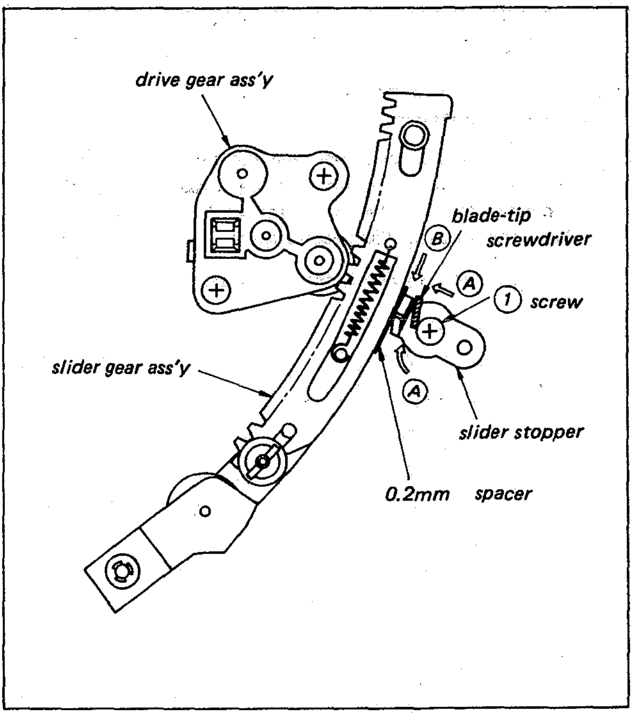

drive gear ass'y
blade-tip screwdriver
Ⓑ
Ⓐ
① screw
slider gear ass'y
Ⓐ
slider stopper
0.2mm spacer

Fig. 3-26. Slider stopper mounting check

3-10-4. Replacement of S Threading Ring (Fig. 3-27)

1) Mount the S threading ring.

2) Insert a spacer (t = 0.2) and set the slider gear to the position where unthreading is complete.
(In the diagram, the slider stopper and slider gear come into contact at Ⓐ through the spacer.)

3) Match up the notch on the S threading ring and the tab on the drive gear as shown at Ⓑ in the diagram.

4) Engage the drive gear, S threading ring, and slider gear, and position the chassis.

5) The gap between the tab on the slider gear and the slider stopper at section Ⓐ is about 0.5 mm when the S threading ring is rotated fully CCW toward of arrow ⓐ. At the same time, verify that the chassis hole (φ3) at Ⓒ and the hole (φ1.5) of the S threading ring match.

6) If the holes do not match exactly, adjust the engagement of the drive gear and S threading gear.

Note: After replacing and mounting, adjust the guide height according to Section 3-11. Also adjust the ACE assembly according to the section on "Tape Path Adjustment".

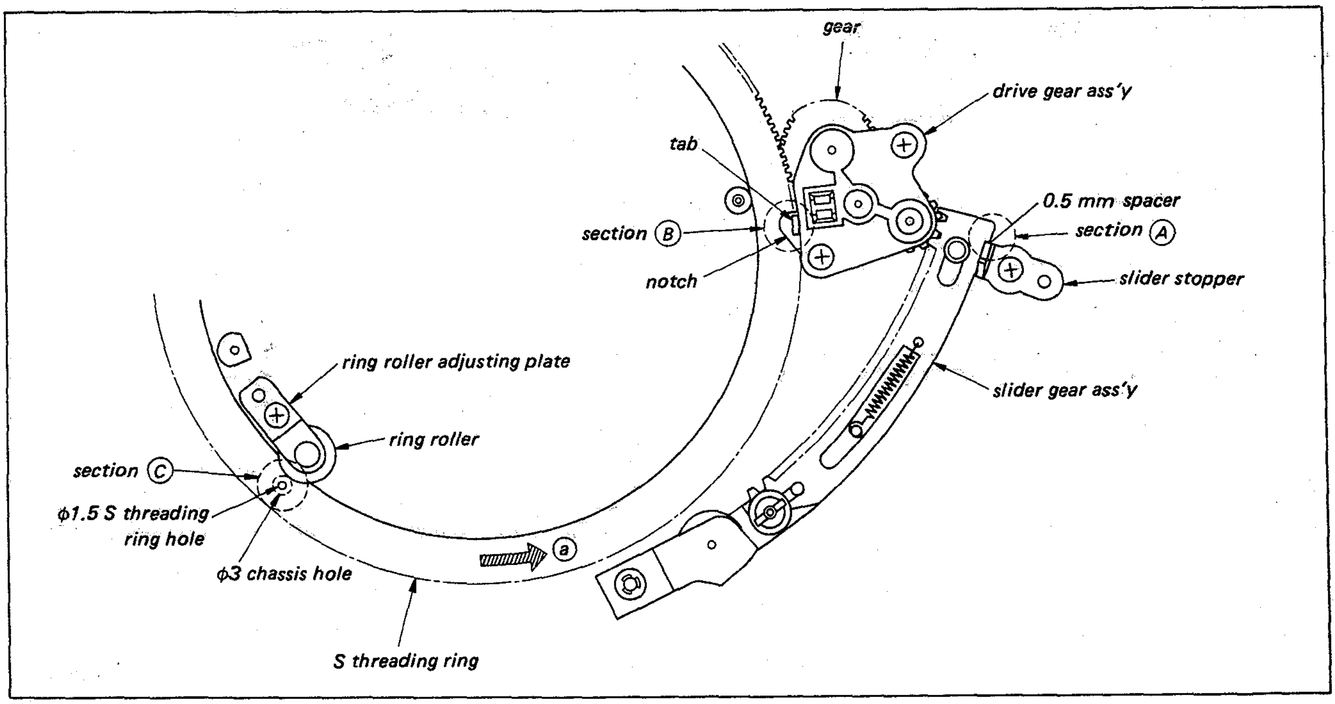

gear
drive gear ass'y
tab
section Ⓑ
notch
0.5 mm spacer
section Ⓐ
slider stopper
slider gear ass'y
ring roller adjusting plate
ring roller
section Ⓒ
φ1.5 S threading ring hole
φ3 chassis hole
ⓐ
S threading ring

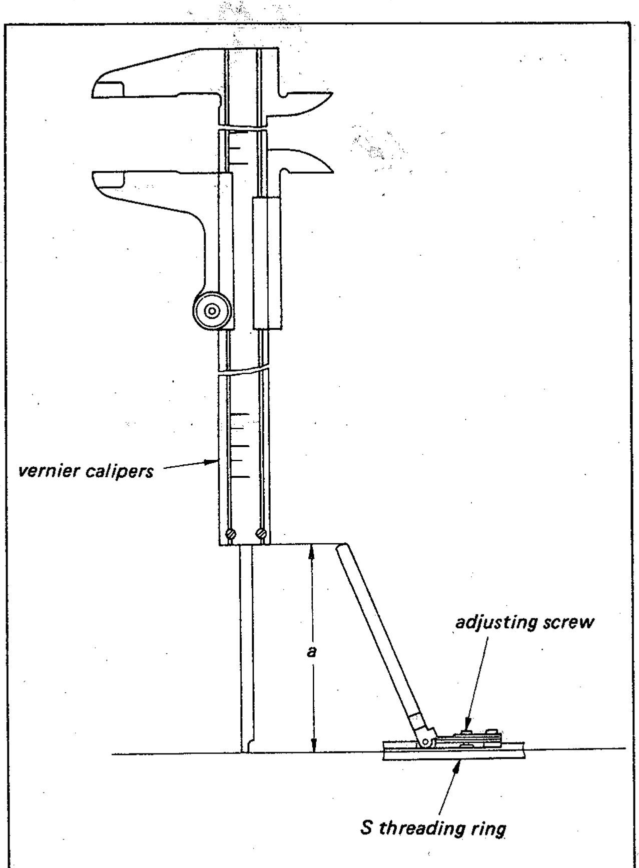
Fig. 3-27. Replacement of S threading ring

3-11. ADJUSTMENT OF No. 2 AND No. 3 GUIDE HEIGHTS (Fig. 3-28)

1) Rotate the threading motor by hand until the No. 2 guide comes up completely.

2) The height adjustment between the top of the S threading ring and guide tip is shown in the diagram set height "a" indicated in the table when the guide is pushed down by hand and released. The height adjusting screws indicated.

3) Adjust the No. 3 guide in the same way.


vernier calipers
a
adjusting screw
S threading ring

Guide No.	Value "a"
2	33.5 mm
3	28.5 mm

Fig. 3-28. No. 2, No. 3 guide height adjustment

3-12. CHECK AND ADJUSTMENT OF PINCH PRESS LIMITER CLEARANCE

[Check Procedure]

1) Set in the STOP mode without inserting a cassette.

2) Check that the clearance "t" of the pinch press limiter (Fig. 3-29) is 0.2 – 0.7 mm. If not, adjust as follows:

[Adjustment Procedure]

1) Loosen screw Ⓐ in Fig. 3-29 with the pinch solenoid held in.

2) Move the pinch limiter adjust plate (shaded in the diagram) fully in the direction of arrow ⓐ, so the clearance "t" at this time is 0.

3) Push the pinch limiter adjust plate in the direction of arrow ⓑ as shown at section Ⓑ using a blade-tip screwdriver, until the clearance "t" is 0.2 – 0.7 mm.

4) Tighten screw Ⓐ and lock it.

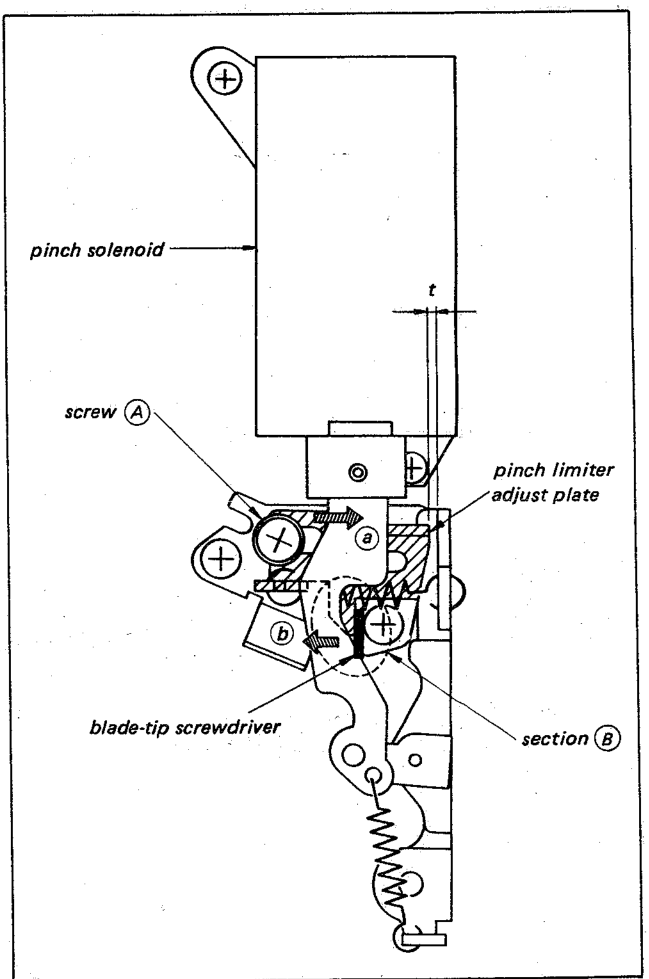

pinch solenoid
t
screw Ⓐ
pinch limiter adjust plate
ⓐ
ⓑ
blade-tip screwdriver
section Ⓑ

Fig. 3-29. Pinch press limiter clearance adjustment

3-13. BRAKE OPERATION CHECK AND BRAKE SOLENOID ADJUSTMENT

Tape slack occurs particularly when the tape diameter on the take-up side on both FF and REW is small, so recheck in these states.

[Check Procedure]

1) Rewind the tape and start forward feed.
2) Repeat FF → STOP several times and check that the tape does not slacken. If it does, adjust according to Adjustment Procedure, below.
3) Wind the tape to the end in fast forward.
4) Repeat REW → STOP several times and verify that the tape does not slacken. Adjust as follows if it does.

[Adjustment Procedure]

1) Loosen screw Ⓐ on the plunger solenoid. (Fig. 3-30)
2) Push the plunger in the direction of arrow Ⓑ by hand until fully retracted.
3) Adjust the plunger solenoid so as to obtain clearances of 0.2 – 0.7 mm between the two brakes and the S and T reel rotors. Tighten screw Ⓐ.

Note: After tightening screw Ⓐ, check for proper clearance at Ⓒ and Ⓓ.

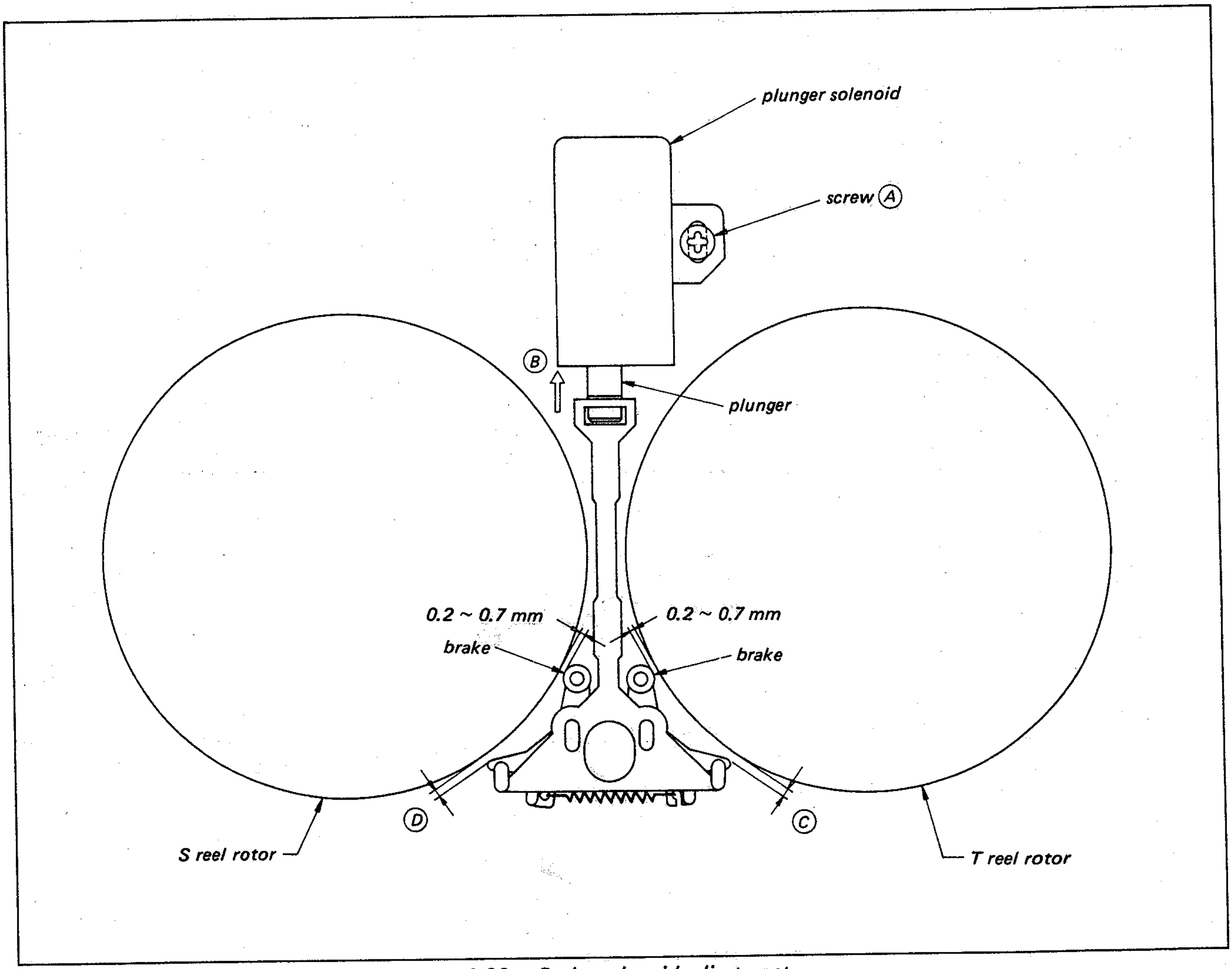


Fig. 3-30. Brake solenoid adjustment

3-14. CHECK AND ADJUSTMENT OF MICROSWITCH POSITION

3-14-1. Check and Adjustment of Threading End Switch (TE Switch) Position

[Check Procedure] (Fig. 3-31)

Rotate the S threading ring by hand and check that the TE switch turns on and off with a clicking noise while the lock roller is moving within the lower 2/3 of the straight portion ℓ of the recess (Ⓐ in Fig. 3-31) on the ring. If not, adjust as follows.

[Adjustment Procedure]

1) Bring the lock roller into the lower 2/3 of the "ℓ" range in the recess on the S threading ring. Turn the cam in the direction of the arrow using a blade-tip screwdriver, until the switch trips (click noise).
2) Check the results of the adjustment following the check procedure above.

[Removal] (Fig. 3-32)

1) Unhook the tension coil spring from the lock arm assembly.
2) Remove the screw ①.
3) Push the hook on the main chassis assembly in the direction of the arrow to unhook, and remove the lock arm assembly.

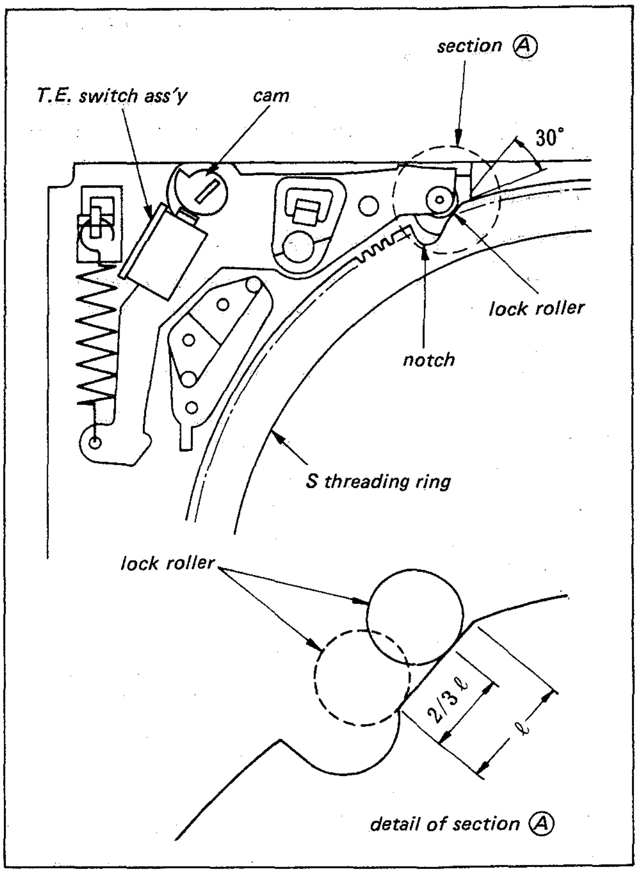

section Ⓐ
T.E. switch ass'y
cam
30°
lock roller
notch
S threading ring
lock roller
2/3 ℓ
ℓ
detail of section Ⓐ

Fig. 3-31. TE switch position adjustment

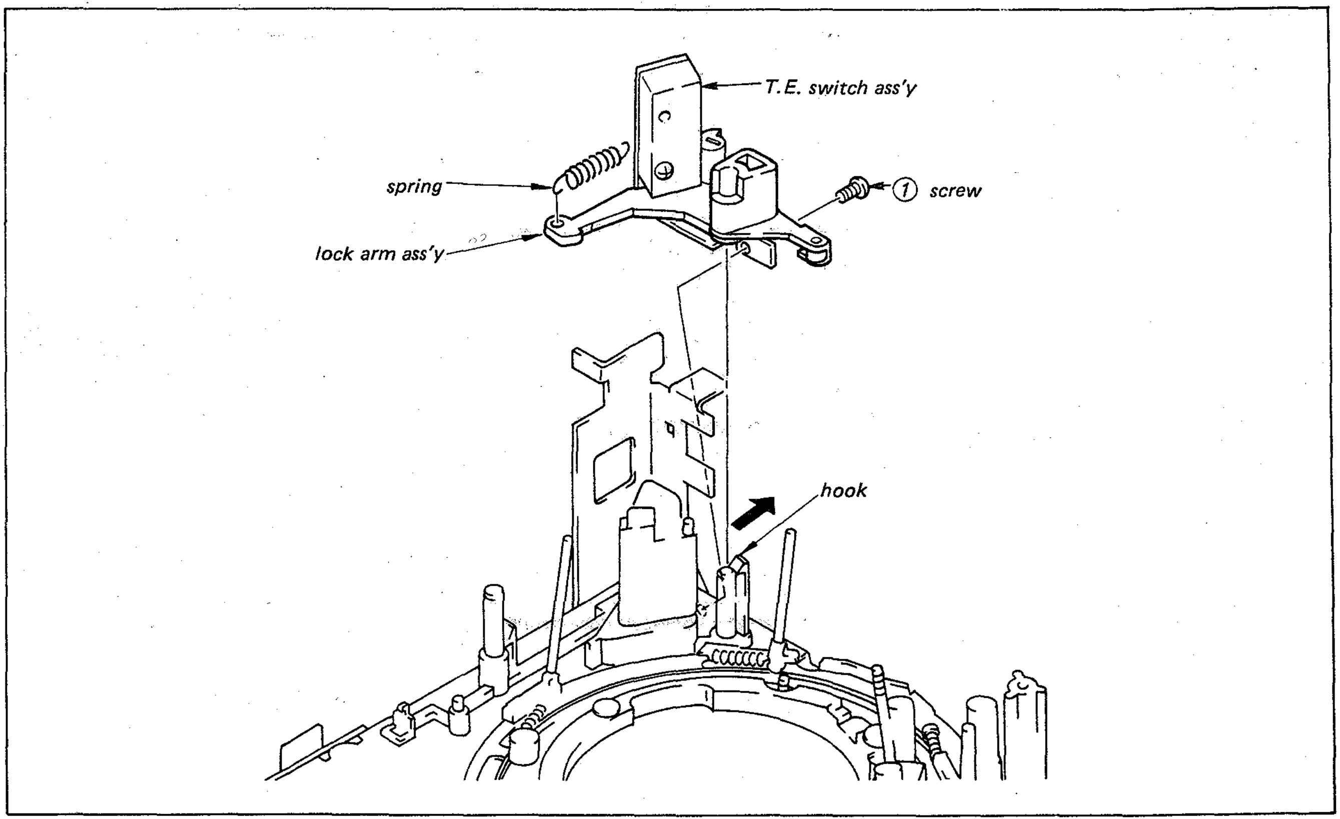

T.E. switch ass'y
spring
① screw
lock arm ass'y
hook

Fig. 3-32.

3-14-2. Check and Adjustment of Unthreading End Switch (UTE Switch) Position

[Check Procedure]

Rotate the S threading ring by hand. Verify that the switch trips when a pin of $\phi1.5$ is inserted at section Ⓐ in Fig. 3-33 after the UTE switch arm roller assembly has dropped into the UTE switch cam groove. Verify that the switch does not trip when a pin of $\phi0.6$ is inserted.

[Adjustment Procedure]

1) If the switch does not trip when the $\phi1.5$ pin is inserted, loosen small screw Ⓑ and adjust by moving the roller in the direction of the arrow little by little.

2) Bend the switch actuator as shown in Fig. 3-34 if the switch turns on when a $\phi0.6$ pin is inserted.

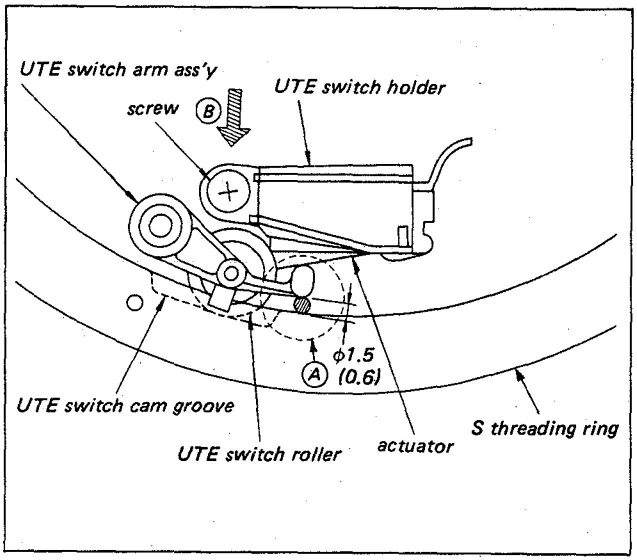

UTE switch arm ass'y
screw Ⓑ
UTE switch holder
φ1.5
Ⓐ (0.6)
UTE switch cam groove
S threading ring
UTE switch roller
actuator

Fig. 3-33. UTE switch position adjustment

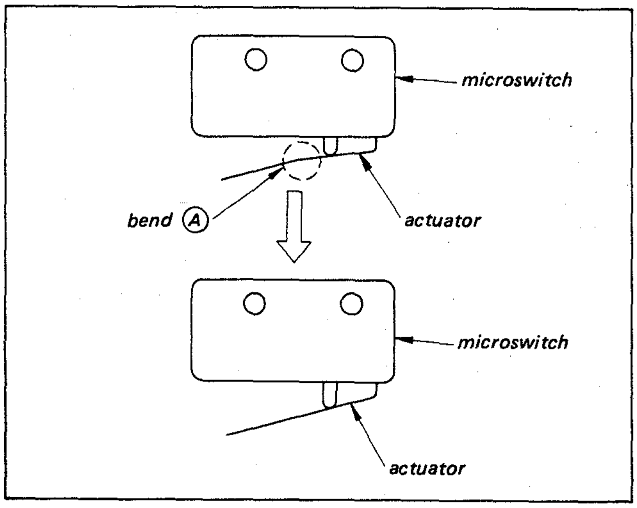

microswitch
bend Ⓐ
actuator
microswitch
actuator

Fig. 3-34.

Caution: Insert the $\phi1.5$ and 0.6 pins in the proper positions shown in Fig. 3-33. (If the pins are inserted too close to the UTE roller side as shown in Fig. 3-35, the clearance inside will be less than 1.5 mm, even though it is 1.5 mm at the entrance, because of the switch construction.)

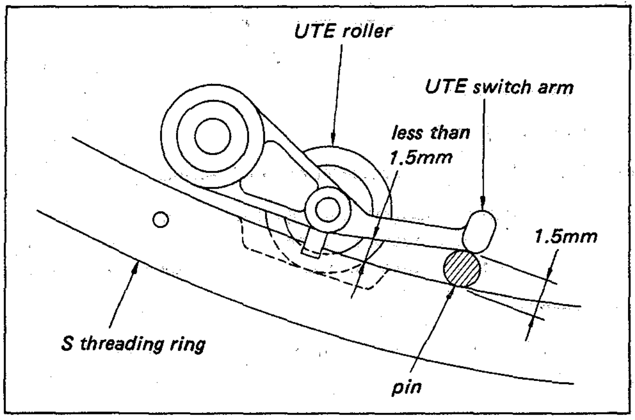

UTE roller
UTE switch arm
less than 1.5mm
1.5mm
S threading ring
pin

Fig. 3-35.

[Removal]

1) Remove the screw ① as shown in Fig. 3-36.

2) Release the switch hook from the chassis and remove the switch body while pushing the actuator to the "ON" position.

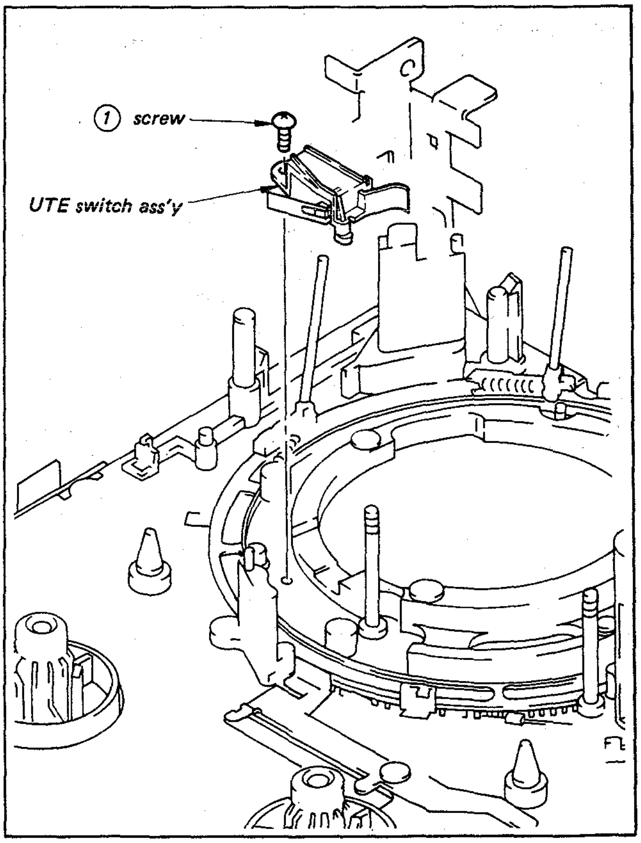

① screw
UTE switch ass'y

Fig. 3-36.

3-15. FORWARD/BACK TENSION MEASUREMENT

Perform this measurement using torque cassette SL-0003C according to the procedure below.

[Procedure]

1) Remove the upper panel so that the tape path is visible.

2) Insert the torque cassette and press PLAY.

3) Read the S reel side meter after the indicator has made about one revolution.

Specified Value 45 ~ 48 g•cm

Notes: i) Be sure the set is level when measuring.

ii) After measuring, the tape may go slack if the STOP button is pressed, so put the set into forward mode first, to remove the slack, then the tape can be ejected.

[Adjustment]

If the specified value is not obtained, adjust with RV-002 on the SS-14 board.

SECTION 4
TAPE PATH ADJUSTMENT

4-1. TRACKING ADJUSTMENT

This adjustment has significant effect on picture quality in each mode and tape interchangeability, so please perform it very carefully.

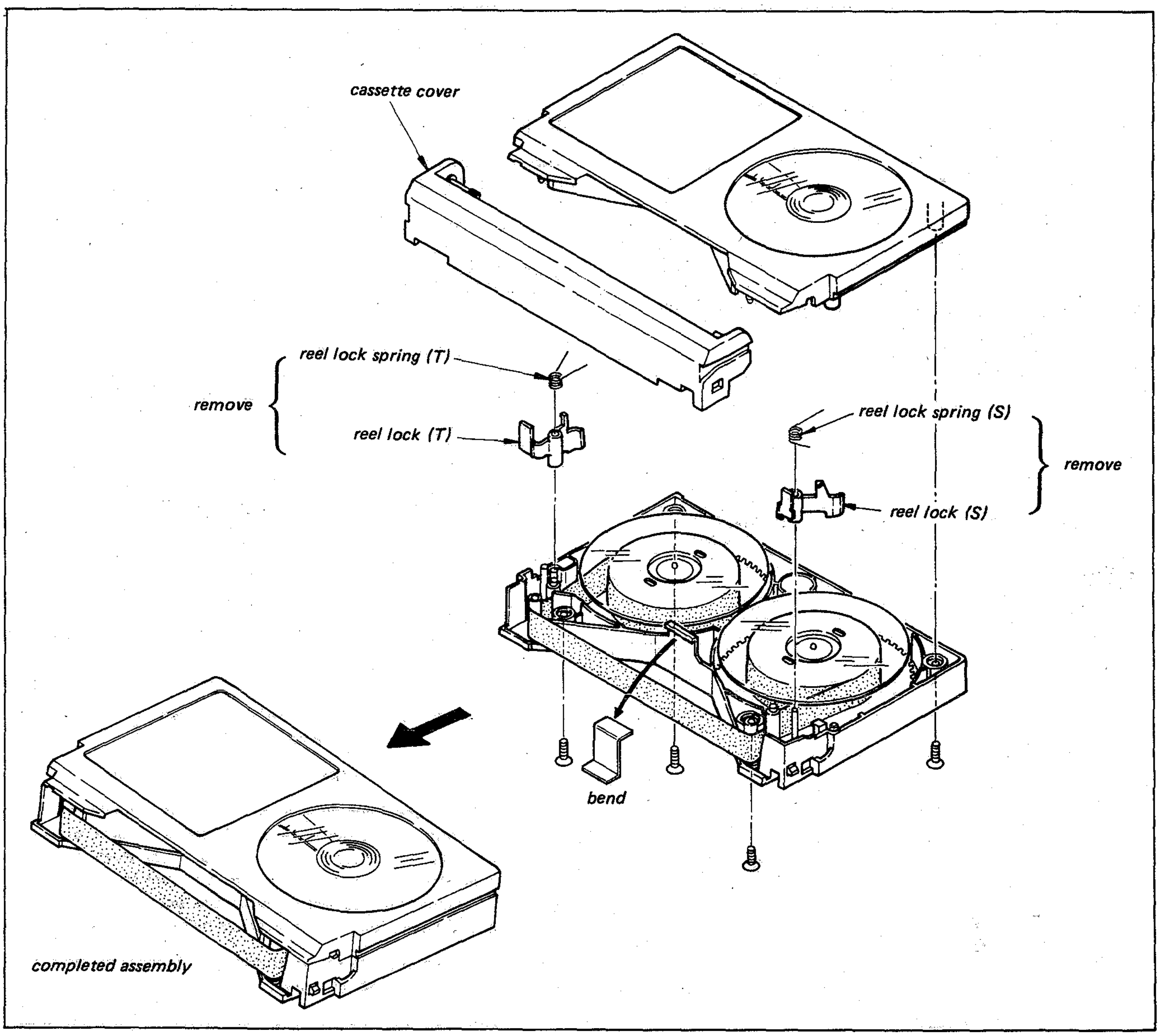

cassette cover
reel lock spring (T)
remove
reel lock (T)
reel lock spring (S)
remove
reel lock (S)
bend
completed assembly

Fig. 4-1.

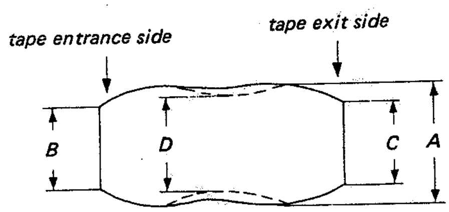
4-1-1. Preparation

1) Remove reel lock springs, reel locks and the cassette cover of alignment tape as shown in Fig. 4-1.

2) Clean the tape contact surfaces (tape guides, drum, capstan shaft, pinch roller, ACE FE head surfaces) with chamois dampened with methanol.

3) Oscilloscope connections: 1ch: CN002-3 pin (VI-1 board)
2ch: CN002-1 pin (VI-1 board)

4) Play back the tracking portion of the alignment tape.



Specifications: Tracking Control Knob at Maximum

Contact: $\frac{B}{A} \geqq 0.7$ $\frac{C}{A} \geqq 0.7$

Variation: $\frac{D}{A} \geqq 0.9$

Fig. 4-2.

	BOARD	CONNECTOR & PIN NO.
RF Output Waveform	VI-1	CN002-3
External Trigger	VI-1	CN002-1
Audio Out (1 ch)	AS-7	J502 CH1 OUT
Video Out	VI-1	CN13 TP2
Switching Waveform	VI-1	CN002-1

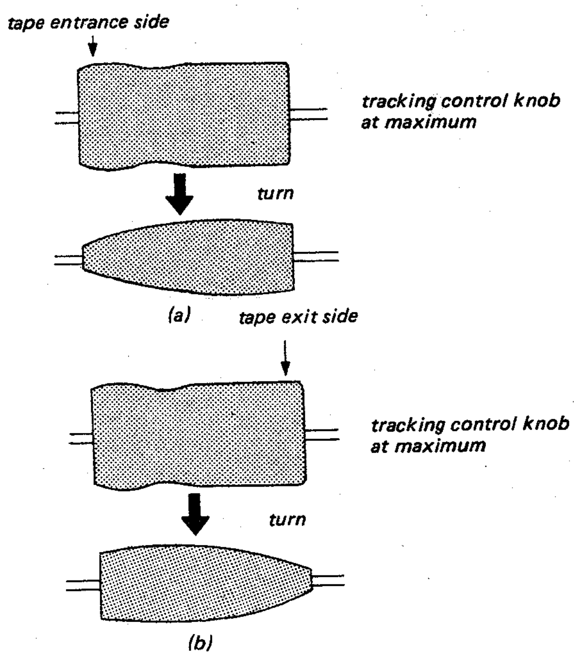

tape entrance side
tracking control knob at maximum
turn
(a)
tape exit side
tracking control knob at maximum
turn
(b)

Fig. 4-3.

5) Confirm that the RF output waveform is flat, with maximum amplitude. (The waveform should increase and decrease, remaining flat, when the tracking control knob is turned back and forth.) Also, when the waveform is maximum, confirm that the RF output waveform variation and contact satisfy the specifications shown in Fig. 4-2. If they do not, follow the instructions in 6).

6) If the tracking control knob is turned and the entrance waveform does not flatten as shown in Fig. 4-3(a), perform the entrance side adjustment in 4-1-2. If the exit waveform does not flatten as shown in Fig. 4-3(b), perform the exit side adjustment in 4-1-3.

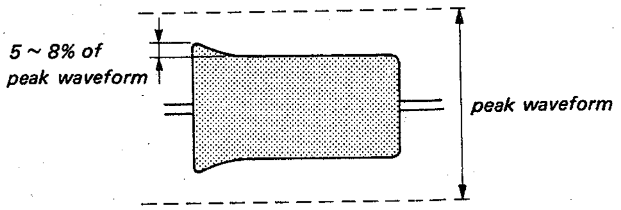
4-1-2. Entrance Side Adjustment

Always perform the exit side adjustment as well as the entrance side adjustment. Fig. 4-4 illustrates the guides and adjustment locations.

1) Turn No. 6 guide counterclockwise to free tape transportation to the drum.

2) Turn tracking control knob counterclockwise to drop RM output waveform to about 60% of maximum.

3) Loosen No. 5 guide lock screw①, turn No. 5 guide so that the entrance side waveform is almost flat, as shown in the figure below, and tighten lock screw①. (See Fig. 4-5)



Note: Be sure that the waveform remains as shown in the figure after tightening the lock screw①.

4) Next lower No. 6 guide and flatten the waveform.

5) Push the tape down between No. 4 and No. 5 guides by hand, and confirm that the entrance side RF waveform returns to the original state after being lowered. If the waveform is not as illustrated, or if the waveform does not flatten, or takes too much time to flatten after the entrance side tape is pushed down, follow the procedure below to adjust.

6) Check No. 5 guide for space and curl. If space or curl exists, follow the appropriate adjustment procedure.

Note: Be sure that there is tape tension upper and lower balance between No. 3 – No. 4 – No. 5 guides. Perform No. 3 or No. 5 guide lateral adjustment if necessary.

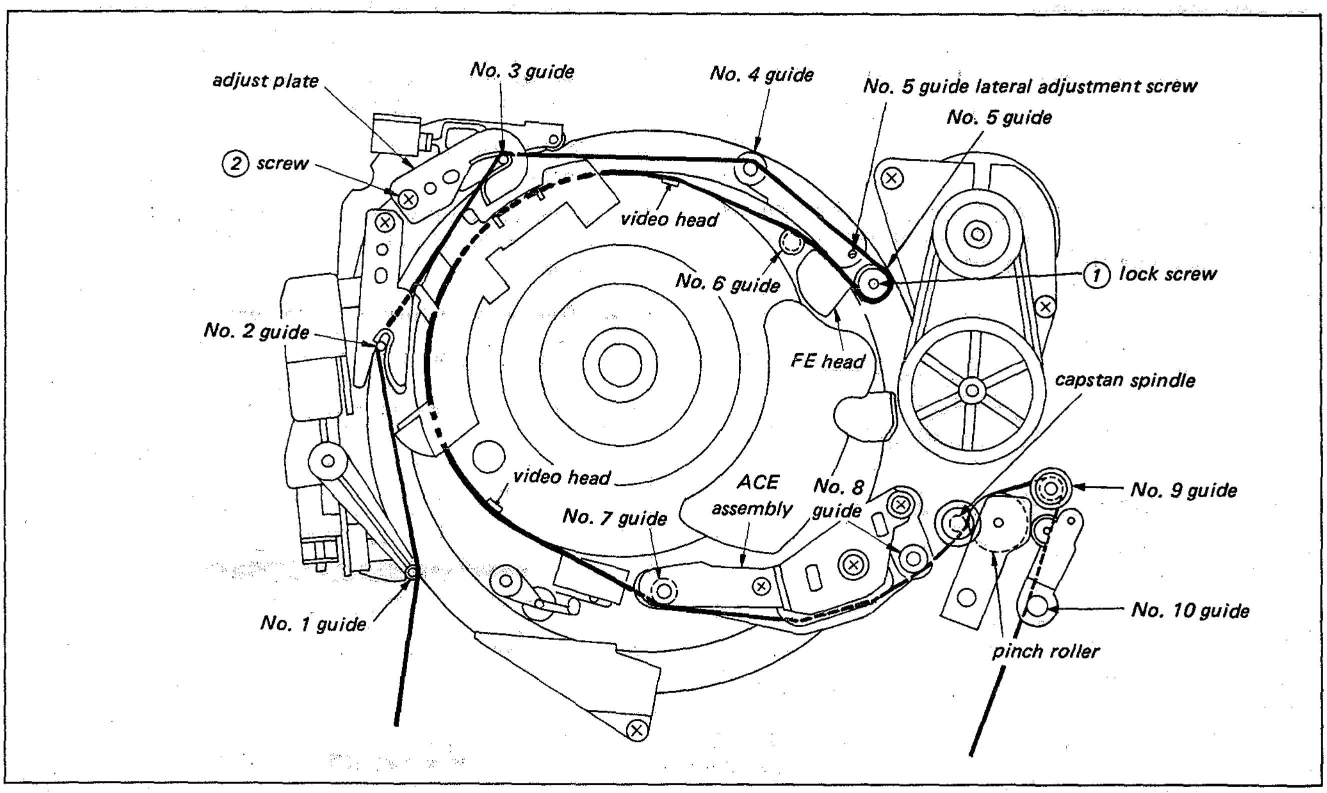

adjust plate
No. 3 guide
No. 4 guide
No. 5 guide lateral adjustment screw
No. 5 guide
② screw
video head
① lock screw
No. 6 guide
No. 2 guide
FE head
capstan spindle
video head
ACE assembly
No. 8 guide
No. 9 guide
No. 7 guide
No. 1 guide
No. 10 guide
pinch roller

Fig. 4-4.

[If the waveform entrance output does not increase]

1) Check to make sure tape upper and lower tension is equal between No. 3 – No. 4 – No. 5 guides. If it is not, perform No. 3 or No. 5 quide lateral adjustment.

Note: Be sure there is no space at No. 4 guide lower flange.

2) Raise No. 4 guide lower flange to raise entrance output.

Note: No. 4 guide lower flange may be raised 0.4 mm from its lowest position.

3) If the waveform does not increase in step 2), turn No. 5 lateral adjustment screw slightly (less than 360°) counterclockwise.

[If the waveform entrance output does not decrease]

1) Move the No. 3 guide adjust plate away from the drum, and tighten screw② at the point just before the lower tension of the tape loosens.

2) If the tape is touching No. 4 guide lower flange, lower the flange. If it is floating, adjust No. 5 guide laterally.

[If there is space at no. 5 guide] •

Turn No. 4 guide counterclockwise to raise the tape and remove the space at No. 5 guide.

Note: Be careful not to create a large space at the bottom of No. 4 guide.

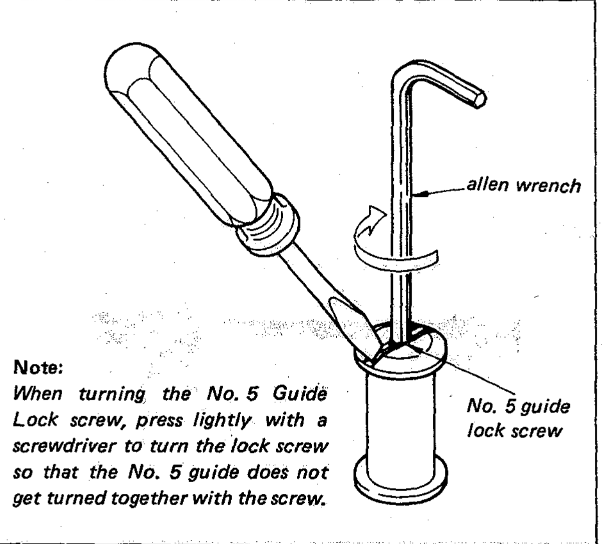
[If there is curl]

1) When there is a space at the bottom of No. 4 guide:
Lean the adjust plate of No. 3 guide toward the outside until the point just before the lower tape tension loosens.

2) When there is curl but no space at the bottom of No. 4 guide:

i) Confirm that No. 4 guide is not raised too high. Turn clockwise to lower if necessary.

ii) If this does not solve the problem, tighten No. 5 guide lateral adjustment screw by turning clockwise until the curl disappears.


allen wrench
No. 5 guide lock screw

Note:
When turning the No. 5 Guide Lock screw, press lightly with a screwdriver to turn the lock screw so that the No. 5 guide does not get turned together with the screw.

Fig. 4-5.

4-1-3. Exit Side Adjustment

1) Turn the tracking control knob counterclockwise to lower the RF output waveform to about 60% of the maximum.

2) Raise No. 7, 8 guides to free the tape transportation, and check the waveform. (This waveform is called "exit free waveform".)

Note: Be careful not to raise the guides too much. They should be raised about 0.3 mm, and also, the tape should not touch the ACE head bottom flange. (Fig. 4-6)

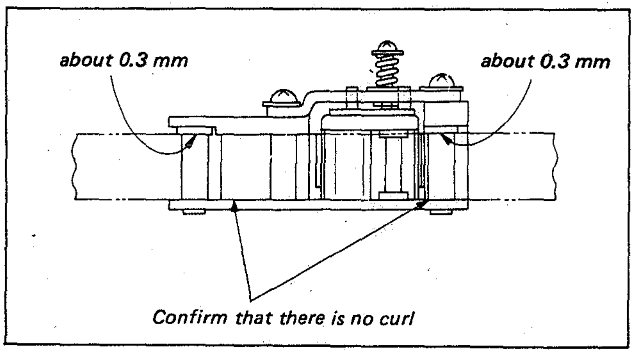


Fig. 4-6.

i) If the exit free waveform is within the range illustrated in Fig. 4-7(a), (b), proceed with exit side adjustment.

ii) If it is not within the specified range, follow the adjustment procedure in 4-3.

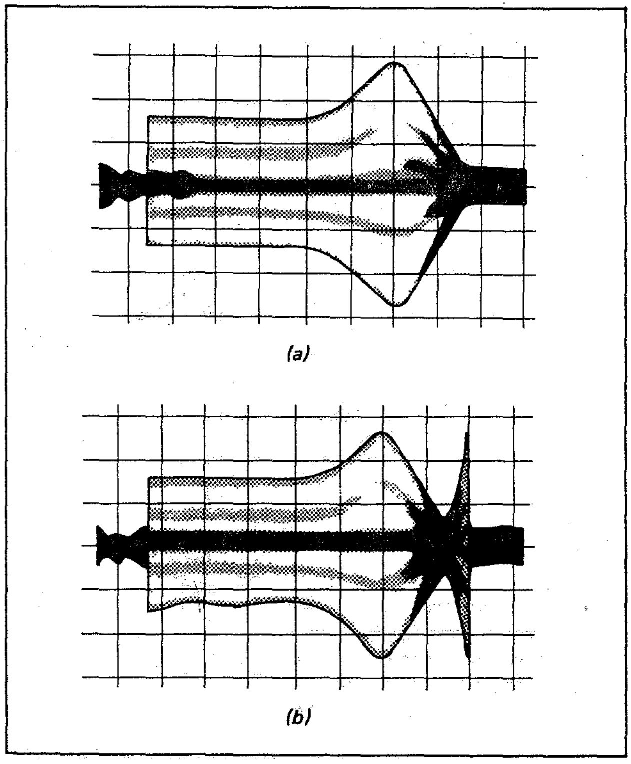


Fig. 4-7.

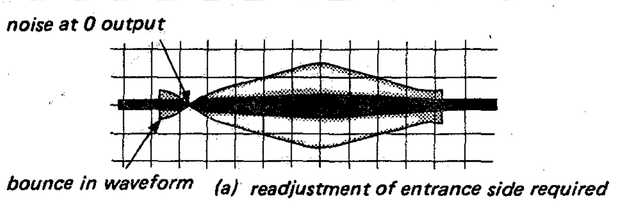
3) Flatten the waveform with No. 7 guide, and match No. 8 guide to the tape. (Lower the guide to the point just before the waveform changes, and where there is no curl.) At this time, the exit side waveform may rise slightly, so lower No. 7 guide again to flatten it, and match No. 8 guide to the tape.

4) Confirm that there is no curl at No. 7, 8 guides in forward mode.

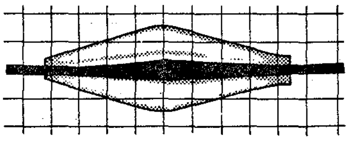
5) Confirm that curl and space do not appear at No. 8 guide in reverse mode. If curl or space appears, adjust with No. 9 guide.

4-1-4. Reverse Waveform Confirmation

1) Confirm that the entrance and exit side waveforms do not bounce or sink when the tracking control knob is turned (less than 30°) in reverse mode. (Fig. 4-8)



(a) readjustment of entrance side required



This kind of waveform should appear when the tracking control is turned.

(b) correct reverse waveform

Fig. 4-8.

2) If there is bounce or sinking in the entrance side waveform, re-adjust the entrance side in forward mode, and if there is bounce or sinking in the exit side waveform, re-adjust the exit side.

3) Confirm the waveform in reverse mode again.

Note: When re-adjusting, be sure to return the tracking control knob to the center position.

4-2. ADJUSTMENT FOR REMOVAL OR REPLACEMENT OF THE ACE ASSEMBLY

Perform the following adjustments after removing or replacing the ACE assembly.

4-2-1. Tracking Adjustment

1) Position the parallel plate (Jig, SL-0657) as shown in Fig. 4-9, and turn audio head lateral adjustment screw ① to adjust the audio head vertically.

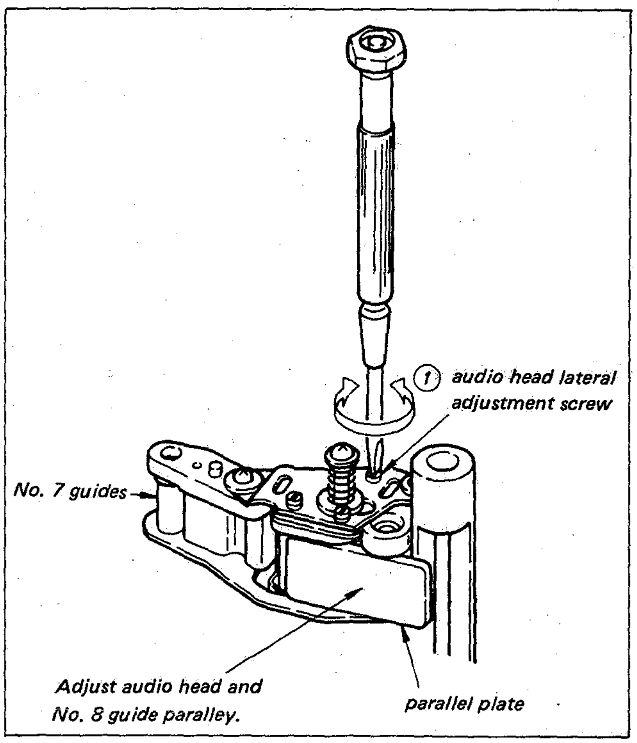

① audio head lateral adjustment screw
No. 7 guides
Adjust audio head and No. 8 guide paralley.
parallel plate

Fig. 4-9.

2) Turn the tracking control knob counterclockwise to lower the RF output waveform to about 60% of the maximum.

3) Play back the tracking portion of the alignment tape, raise No. 7, 8 guides about 0.3 mm, and check the exit free waveform of the RF output waveform.

Note: Be sure that the tape does not touch the bottom flange of the ACE assembly.

i) If the waveform is within the range illustrated in Fig. 4-7(a), (b), proceed with the adjustment.

ii) If the exit free waveform appears as shown in Fig. 4-10, turn the ACE lateral adjustment screw clockwise until the waveform is within the range illustrated in Fig. 4-7(a), (b).

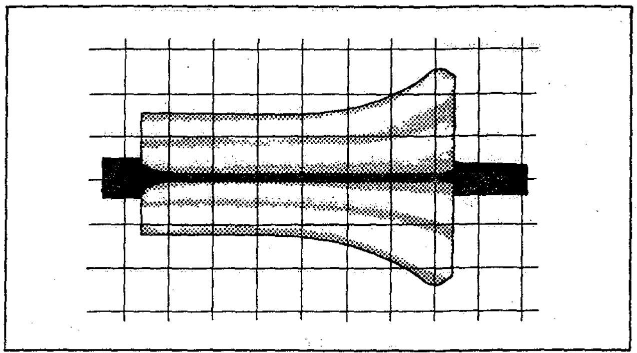


Fig. 4-10.

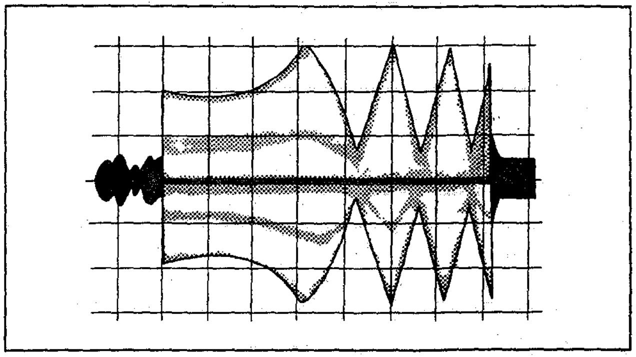


Fig. 4-11.

iii) If the exit free waveform appears as shown in Fig. 4-11, turn the ACE lateral adjustment screw couter-clockwise to obtain the waveform shown in Fig. 4-10, then turn clockwise again until the waveform is within the range shown in Fig. 4-7.

Note: The 3 audio head adjustment screws must be turned clockwise to adjust.

4) Turn the No. 7 guide to flatten the waveform, and match the No. 8 guide to the tape. (Lower the guide until the point just before curl appears at No. 8 guide flange.)

5) If the RF output waveform is as shown in Fig. 4-10, where the exit side is not flat, lower No. 7, No. 8 guides again to flatten it.

4-2-2. Audio Head (ACE Assembly) Azimuth Adjustment

1) Connect the oscilloscope as follows:
   1ch: CN002. . . . .3 pin (VI-1 board)
   2ch: J502 . . . . . .CH-1 OUT (AS-7W board)
   Replay the 5 kHz portion of the alignment tape.

2) Turn the azimuth adjustment screw (Fig. 4-12) so that the amplitude of the 5 kHz waveform is maximum.

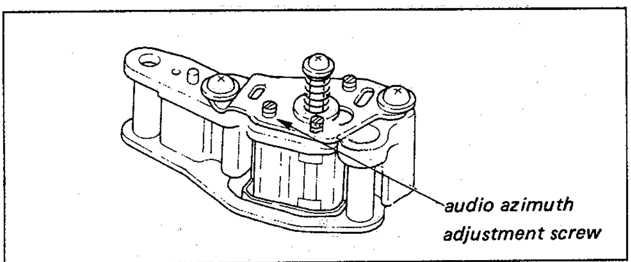


Fig. 4-12.

4-2-3. CTL Head (ACE Assembly) Position Adjustment

This adjustment is both mechanical and electric: mechanically, it is the adjustment of the CTL head position, and electrically, it is the tracking control center adjustment. The procedure involves performing the electrical adjustment first, then the head position adjustment.

1) Connect the oscilloscope as follows:

   1ch: CN002 . . .3 pin (VI-1 board)
   2ch: J502 . . . .CH-1 OUT (AS-7W board)
   External trigger: CN002 . . .1 pin (VI-1 board)

2) Play back the tracking portion of the alignment tape.

3) Turn the tracking control knob back and forth, and confirm that the output waveform level is maximum at the center click position, and that the 0 level of the audio signal is at the point where the RF output waveform Bch waveform appears, as shown in Fig. 4-13.
   If adjustment is necessary, proceed as follows.

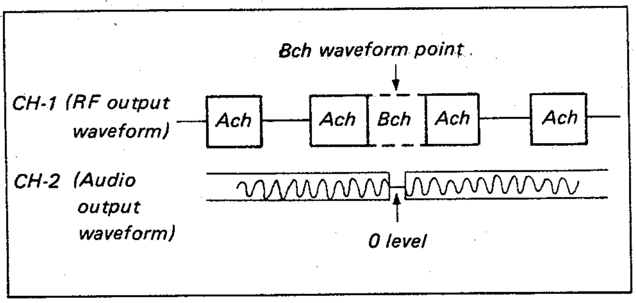


Fig. 4-13.

4) Tracking Control Center Adjustment

5) CTL Head Position Adjustment
   Set the tracking control knob at the center click position and loosen the two ACE assembly position adjustment screws ①. As shown in Fig. 4-14, slide the ACE assembly with a screwdriver until it is in the position shown in Fig. 4-13 and the RF output waveform is maximum. Tighten the screws when this position is obtained.

6) Replay the βII color bars of the alignment tape and check the picture quality.

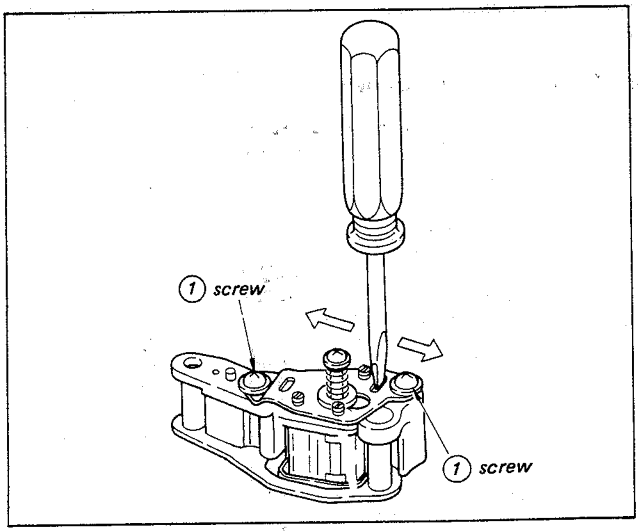


Fig. 4-14.

4-2-4. Audio Head (ACE Assembly) Height Adjustment

Perform this adjustment only after completing the exit side tracking adjustment.

1) Oscilloscope connection: 1ch: J502 . . .CH-1 OUT (AS-7W board)
   Replay the 5 kHz portion of the alignment tape

2) Turn the audio head height adjustment screw ① and the lateral adjustment screw ② (Fig. 4-15) until the audio output waveform amplitude is maximum.

Note: Both of these adjustment screws should be turned in the same direction at the same angle, less than 30°.

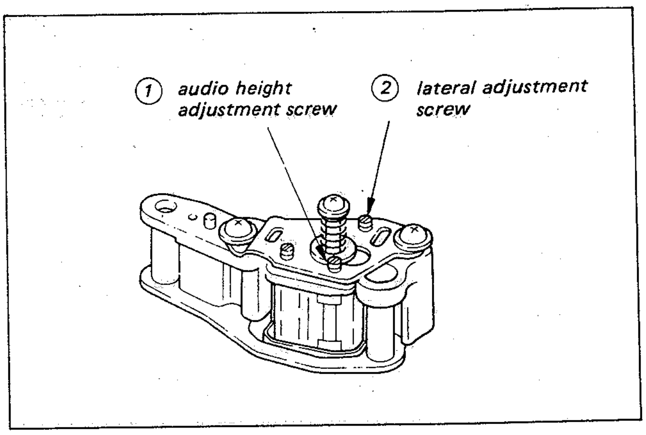


Fig. 4-15.

4-3. ADJUSTMENT FOR REMOVAL OR REPLACEMENT OF THE CAPSTAN MOTOR

1) Perform the vertical adjustment of the capstan shaft according to 3-4, Replacement and Adjustment of Capstan Motor.

2) Play back the tracking portion of the alignment tape. Connect the oscilloscope as follows:

   1ch: CN002 . . . 3 pin (VI-1 board)
   2ch: CN002 . . . 1 pin (VI-1 board)

3) Turn the tracking control knob clockwise to lower the RF output waveform to about 60% of the maximum.

4) Raise No. 7, 8 guides a little, and check the exit free waveform.

   i) If the exit free waveform is within the range indicated in Fig. 4-16(a), (b), proceed from step 5).

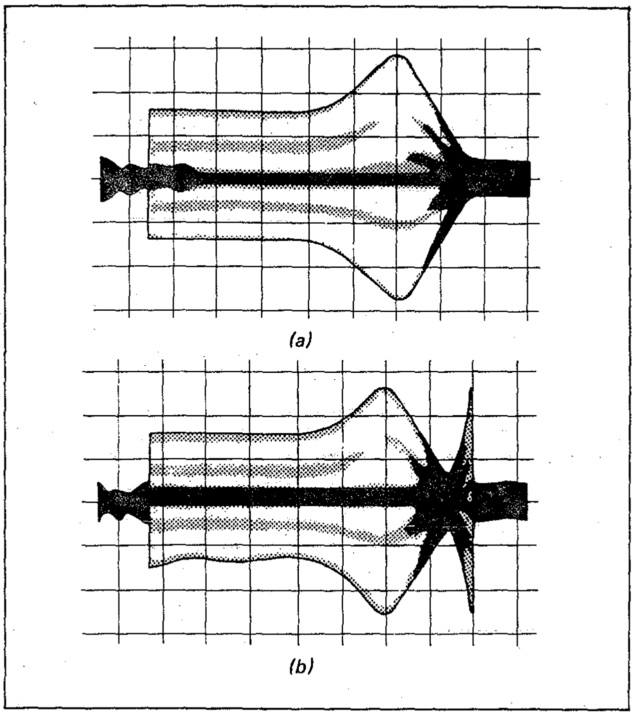


Fig. 4-16.

   ii) If the peak of the exit free waveform is smaller than that illustrated in Fig. 4-16(a) (e.g. Fig. 4-17), loosen the lock screw, then turn the capstan adjustment screw until the waveform is within the specified range.

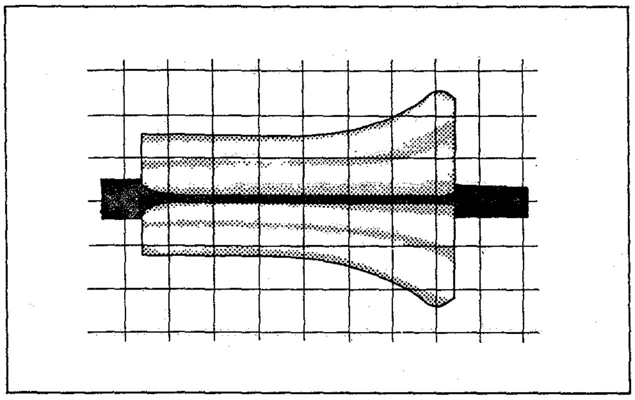


Fig. 4-17.

   iii) If the peak shape of the exit free waveform differs from that shown in Fig. 4-16(b) (e.g. Fig. 4-18), loosen the lock screw, then turn the capstan adjustment screw clockwise until the waveform is within the specified range.

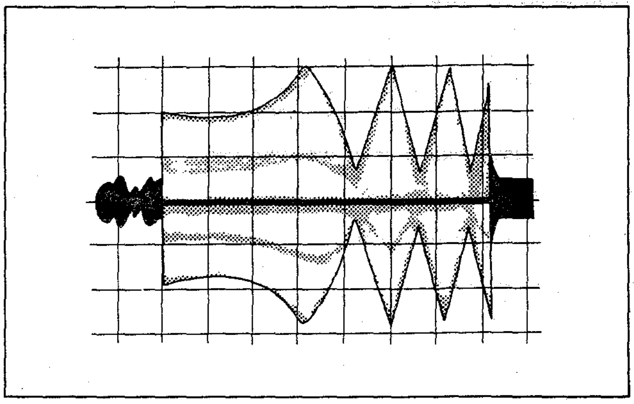


Fig. 4-18.

Note: After turning the capstan adjustment screw, wait until the waveform stabilizes (about 10 – 15 seconds) before continuing with the adjustment.

5) Lock the capstan lock screw. (Turn clockwise until it stops, then turn about 30° more. At this point, the exit free waveform will change slightly, and if it goes out of the range shown in Fig. 4-16(a), (b) return to step 4) and re-adjust.

6) Flatten the waveform with No. 7 guide, and match No. 8 guide to the tape. If the exit waveform rises, flatten it again with No. 7 guide and match No. 8 guide to the tape again.

7) Confirm and adjust according to 4-1-3, exit side adjustment procedure items 4), 5).

SECTION 5
ELECTRICAL ALIGNMENT

This section provides all necessary information and instructions for complete alignment of the electronic circuits in this machine.

EQUIPMENT REQUIRED

(1) Color TV receiver
(2) Oscilloscope Dual-trace, Bandwidth more than 15 MHz with delay mode
(3) Frequency counter (more than four digits)
(4) NTSC pattern generator
(5) Digital voltmenter (10MΩ/V)
(6) VOM (20 kΩ/V)
(7) Audio generator
(8) Level meter
(9) Distortion meter
(10) Spectrum analyzer
(11) Alignment tape Type KR5-1M Code No. 8-969-995-82
(12) Alignment tool (adjusting screwdriver for semi-fixed resistor coil) Code No. 7-700-733-01

[Preparatory Set-up for Alignment]

For these alignment procedures involving use of a video input signal the NTSC pattern generator is to be connected to the VHF antenna terminals of the SL-2700/2700B. This RF signal is processed by the tuner and I.F. circuits within the VTR. It is important that the video out signal from the I.F. circuit satisfies the specifications. The video signal must be checked with an oscilloscope connected to pin 2 of CN5 on the VI-1 board. Check that the video signals are flat when the amplitude of the horizontal sync signal is about 0.3V, the amplitude of the video portion is about 0.7V, and the amplitude of the burst signal is about 0.3V.
The video signal (color-bar signal) used in this alignment is shown in Fig. 5-1.

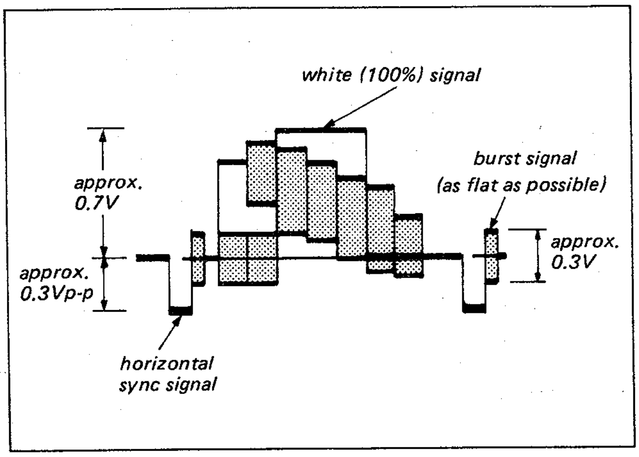

white (100%) signal
approx. 0.7V
burst signal (as flat as possible)
approx. 0.3V
approx. 0.3Vp-p
horizontal sync signal

Fig. 5-1. Color-bar signal of pattern generator

[Alignment Tape]

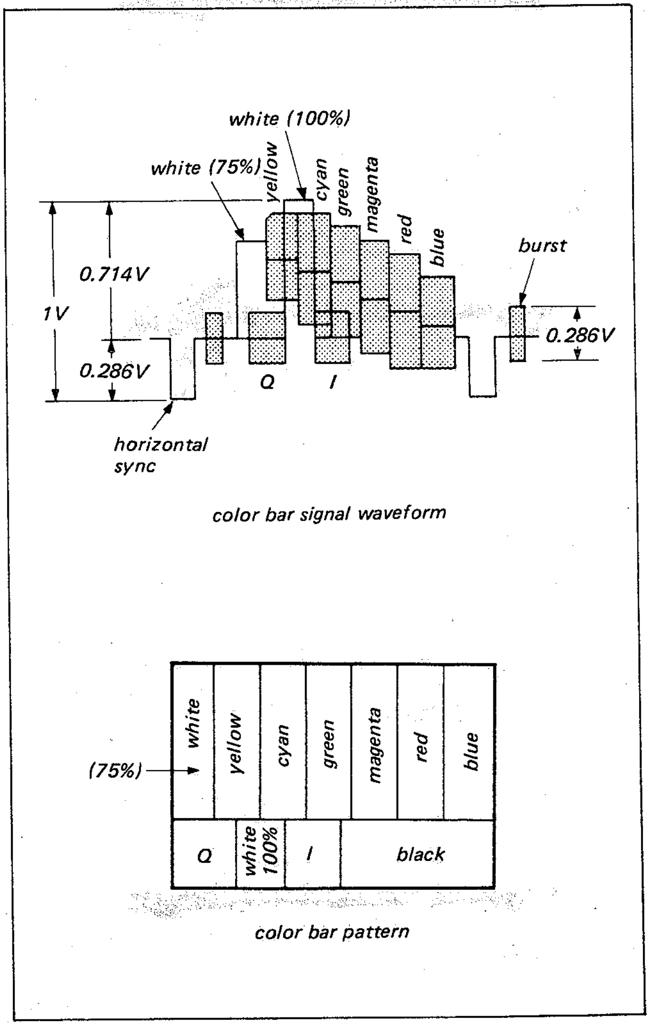
KR5-1M

Tape speed	Video signal	Audio signal	Playing time
20.0mm/sec. (βII)	Color bars	3kHz −5dB	4 min. for each segment
	Monoscope	333Hz −25dB	
	RF sweep	5kHz −25dB	
	Tracking	1kHz −5dB	
13.3mm/sec. (βIII)	Color bars	3kHz −5dB	
	Monoscope	5kHz −25dB	
	Color bars	Beta hi-fi 400Hz ± 25kHz DEV	

[Color Bar Signal]

The 75% color bar signal recorded on the alignment tape is shown in Fig. 5-2.

Note: Measure at TP2 on the VI-1 board. (75Ω terminate)


white (100%)
white (75%)
yellow
cyan
green
magenta
red
blue
burst
0.714V
1V
0.286V
0.286V
Q
I
horizontal sync
white
yellow
cyan
green
magenta
red
blue
(75%)
Q
white 100%
I
black

color bar signal waveform

color bar pattern

Fig. 5-2. Color-bar signal of alignment tape

[75Ω Terminating Method]

To terminate the video output terminal (TP2 on the VI-1 board), follow the steps shown in Fig. 5-3.

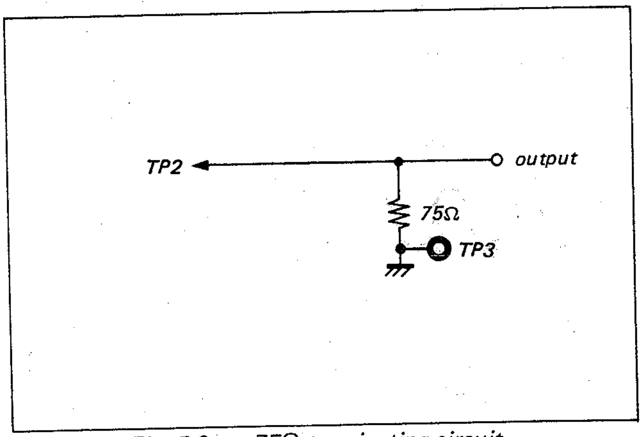

TP2
output
75Ω
TP3

Fig. 5-3. 75Ω terminating circuit

[VR Alignment Tool Screwdriver]

Use the tool screwdriver supplied for alignment of semi-fixed VRs and inductances on each printed circuit board. An ordinary screwdriver is too large and is difficult to use when adjusting VRs from the print pattern side of a board. The special alignment tool screwdriver is shown in Fig. 5-4.

The metal blade of the screwdriver is used for variable resistors and trimmer capacitors.

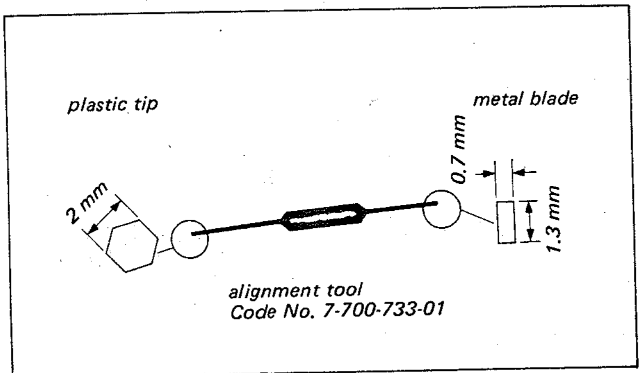

plastic tip
metal blade
0.7 mm
1.3 mm
2 mm
alignment tool
Code No. 7-700-733-01

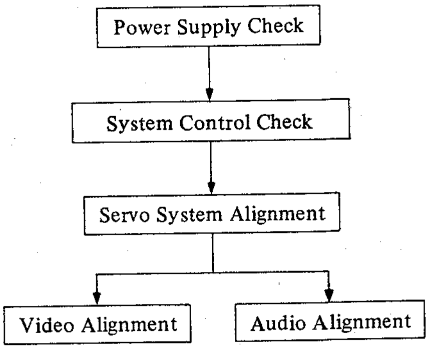
Fig. 5-4. Alignment tool screwdriver

[Required Levels and Impedances of Input and Output]

Inputs and outputs	
Video input	Phono jack (1) 1 V p-p ±0.5 V p-p, 75 ohms, unbalanced, sync negative
Video output	Phono jack (1) 1 V p-p ±0.5 V p-p, 75 ohms, unbalanced, sync negative
Audio input	Phono jacks (2) −10 dBs (0 dBs = 0.775 V rms), more than 47 k ohms
Audio output	Phono jacks (2) −10 dBs (at load impedance 47 k ohms) More than 10 k ohms
Camera connector	14-pin K-type connector (1) Video in : 1 V p-p ±0.5 V p-p 75 ohms, unbalanced, sync negative Video out : 1 V p-p ±0.5 V p-p 75 ohms unbalanced, sync negative Audio in : −20 dBs Audio out : −5 dBs Power supply output : 12 V dc
Mircophone input	Minijacks (2) −60 dBs, for low-impedance microphone

[Alignment Sequence]

The alignment should be performed following the sequence below.


Power Supply Check
System Control Check
Servo System Alignment
Video Alignment
Audio Alignment

5-1. POWER SUPPLY CHECK (SS-14 Board)

Measure in E-E mode (power supply switch ON).

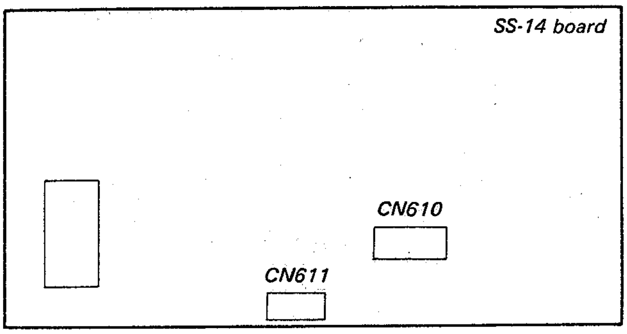


Fig. 5-5. Component layout

5-1-1. Unswitched 12V Check
Pin 2 of CN611 shall be 12.6 ± 0.9V.

5-1-2. Switched 12V Check
Pin 1 of CN611 shall be 12.6 ± 0.2V.

5-1-3. REG 9V Check
Pin 4 of CN610 shall be 9.0V ± 0.2V.

5-1-4. REG 5V Check
Pin 2 of IC610 shall be 5V ± 0.35V.

5-2. SYSTEM CONTROL CHECK (SS-14 Board)

5-2-1. Clock Frequency Check

Mode: E-E
Signal: None
Frequency counter: Pin 10 of IC605
Check: Within 3.9 MHz ± 0.1 MHz

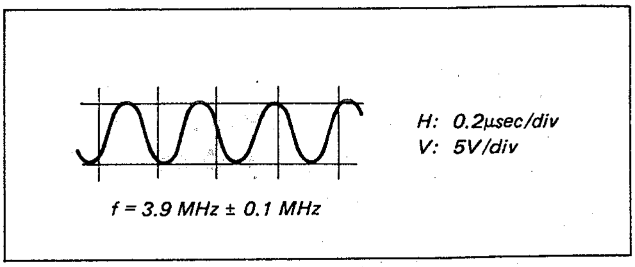


Fig. 5-6. Clock frequency

5-3. SERVO SYSTEM ALIGNMENT

Alignment Sequence

5-3-1. Reel servo system alignment
5-3-2. Drum servo system alignment
5-3-3. Capstan servo system alignment
5-3-4. Swing search servo system alignment

5-3-1. Reel Servo System Alignment

1. FAST-FWD/REW Speed Alignment (SS-14 board)

Using VOM (20 kΩ/V)
Mode: FAST-FWD
VOM: Pin 7 of IC005
Alignment method:
(1) FAST-FWD the tape center section (with the tape wound equally on T and S-side reels)
(2) Adjust to 3.9V ± 0.2V with RV001.
(3) Set up the REW mode at the tape center section.
(4) Check that VOM shows 3.9V ± 0.5V.

Using frequency counter
Mode: FAST-FWD
Frequency counter: D002 anode (TP002)
Alignment method:
(1) FAST-FWD the tape center section (with the tape wound equally on T and S-side reels)
(2) Adjust to 340 Hz ± 30 Hz with RV001.
(3) Connect the frequency counter to the anode of D001 (TP001).
(4) Set up the REW mode at the tape center section.
(5) Check that the frequency is 340 Hz ± 50 Hz.

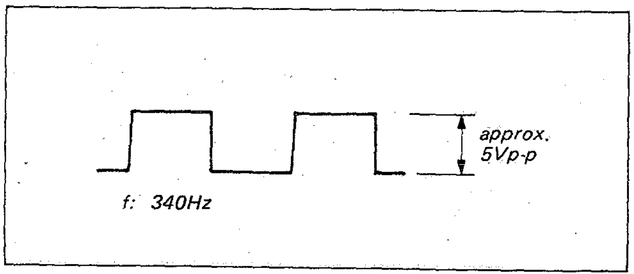


Fig. 5-7. Alignment of FAST-FWD/REW speed

2. FWD Back Tension Alignment (SS-14 board)
See "Mechanical Adjustment"

5-3-2. Drum Servo System Alignment

1. Voltage Check
(1) Pin 30 of IC301 shall be 5.6 ± 0.3V
(2) Pin 10 of IC301 shall be 3.5 ± 0.2V or 5 ± 0.2V

2. Clock Check
(1) Pin 28 of IC301 shall be above 0.4 Vp-p

3. Drum Free Speed Adjustment (SS-14 board)
Mode: Playback
Signal: Alignment tape βII color bar, or monoscope
Oscilloscope: CH-1 Pin 13 of IC301 (TP306)
CH-2 Pin 39 of IC301 (TP304)

Alignment method:
Adjust to 547 μsec ± 10 μsec with RV302 (See Fig. 5-8)

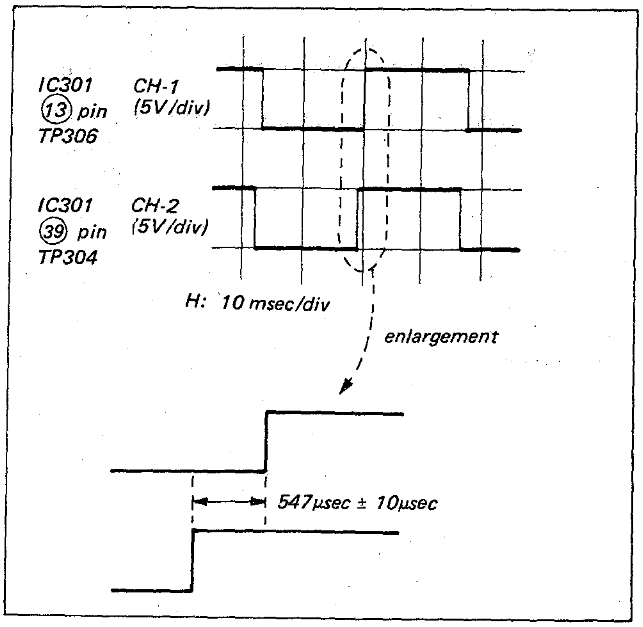


Fig. 5-8. Drum free speed adjustment

4. RF Switching Position Adjustment (SS-14 board)
Mode: Playback
Signal: Alignment tape βII color bar or monoscope
Oscilloscope: CH-1 TP304 (pin 39 of IC301)
CH-2 Pin 40 of IC301

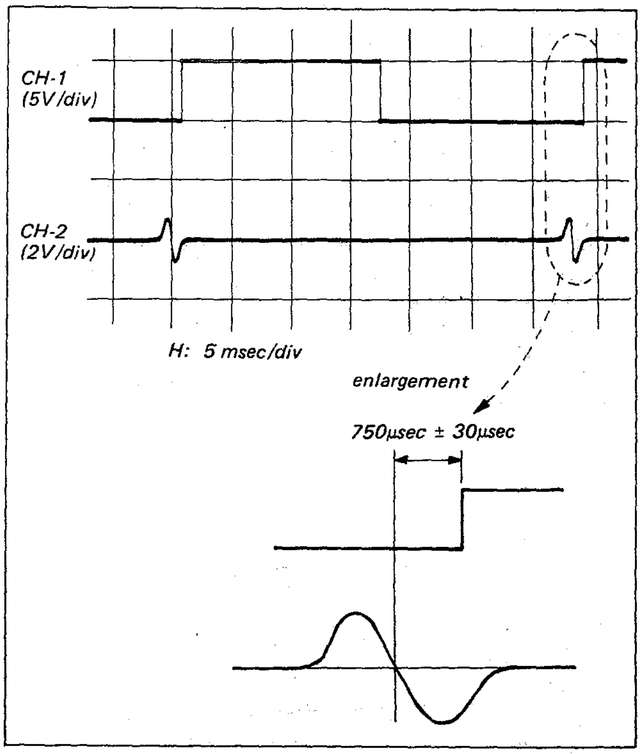


Fig. 5-9. RF switching position adjustment (1)

Adjustment method:

(1) Adjust to 750 µsec ± 30 µsec with RV301. (See Fig. 5-9)
(2) Change connection of CH-2 only to pin 3 of IC301.
(3) Mode: Recording
(4) Confirm that the Lock Phase of RF SW P (B_{CH}) is 6.5H.
(5) Adjust RV304 so that the Lock Phase of RF SW P (A_{CH}) is 6.5H. (See Fig. 5-10)

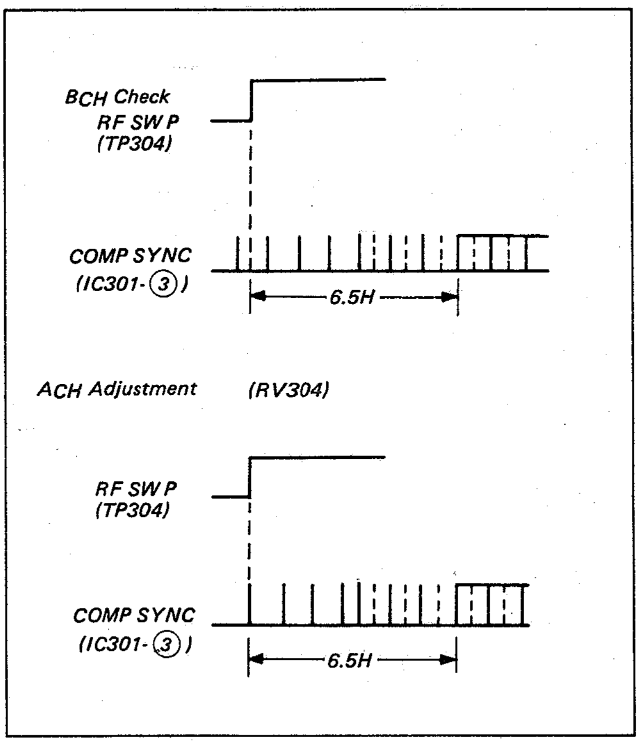

BCH Check
RF SW P
(TP304)
COMP SYNC
(IC301-③)
6.5H
ACH Adjustment
(RV304)
RF SW P
(TP304)
COMP SYNC
(IC301-③)
6.5H

Fig. 5-10. RF switching position adjustment

5. BETA Scan, Drum Free Speed Adjustment (SS-14 board)

Mode: BETA scan
Signal: Alignment tape βIII color bar or monoscope
Oscilloscope: Pin 2 of CN305
Adjustment method:
Adjust to 63.62 µsec ± 0.1 µsec with RV303 (See Fig. 5-11).

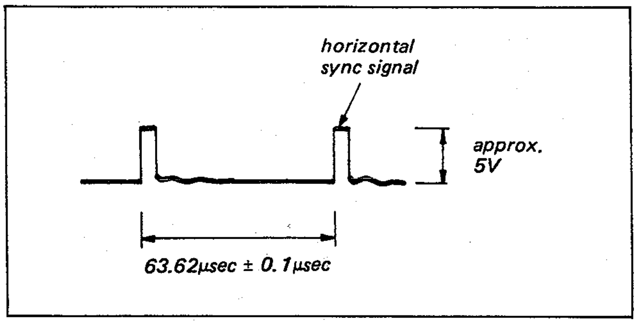

horizontal
sync signal
approx.
5V
63.62µsec ± 0.1µsec

Fig. 5-11. Drum free speed adjustment

5-3-3. Capstan Servo System Alignment

1. Capstan DC Bias Adjustment (SS-14 board)

Mode: Playback
Signal: Color bar from alignment tape βII, βIII or monoscope
Oscilloscope: Pin 20 of IC301 (TP302)
Adjustment method:
Adjust to the relevant duty (ratio for A and B) in the play mode with the RV as shown in Table 1.

Playback Mode	Adjustment RV	Duty
βIII	RV306	50%
βII	RV309	50%
βII + x2	RV307	50%
βIII + x2	RV308	50%
βII CUE	RV310	50%

Table 1.

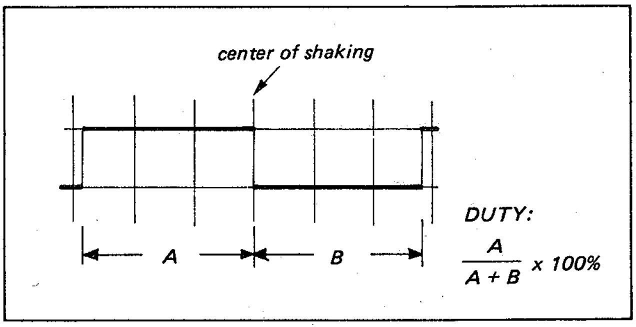
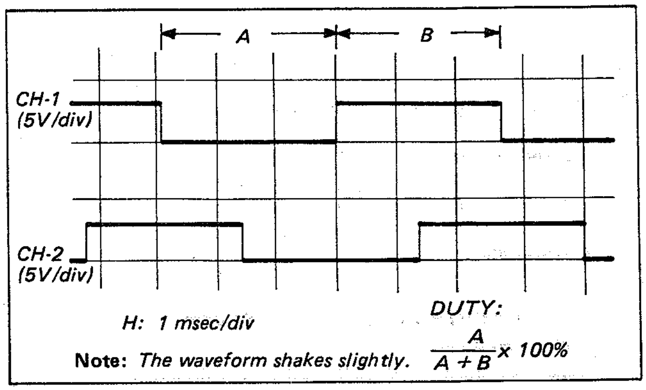

center of shaking
A
B
DUTY:
A/(A + B) x 100%

Fig. 5-12. Capstan DC bias adjustment

2. FG Amp DC Bias Adjustment (SS-14 board)

Mode: Playback
Signal: Alignment tape βII color bar or monoscope
Oscilloscope: CH-1 Pin 1 of IC306
CH-2 Pin 5 of IC306
Adjustment method:

(1) Short pins 8 (TP317) and 11 (TP313) of IC314 and adjust the duty ratio (between A and B) to about 50% with RV316 and RV315. (See Fig. 5-13)
Note: When the waveform does not lock and the playback picture is disturbed during adjustment, the video cassette recorder stops automatically. Set up the playback mode and adjust again.


A
B
CH-1
(5V/div)
CH-2
(5V/div)
H: 1 msec/div
DUTY:
A/(A + B) x 100%

Note: *The waveform shakes slightly.*

Fig. 5-13. FG amp DC bias adjustment (1)

(2) Repeat shorting and opening pins 8 (TP317) and 11 (TP313) of IC314 successively and adjust so that the duty ratio (between A and B) of CH-1 waveform does not change, with RV315. (See Fig. 5-14)

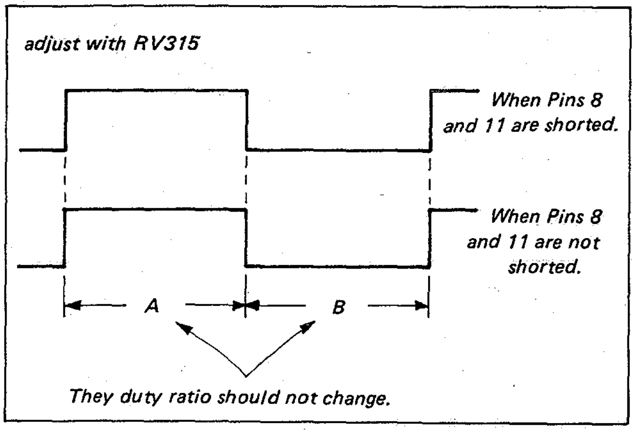

adjust with RV315
When Pins 8 and 11 are shorted.
When Pins 8 and 11 are not shorted.
A
B
They duty ratio should not change.

Fig. 5-14. FG amp DC bias adjustment (2)

(3) Connect CH-2 of the oscilloscope to pin 20 (TP302) of IC301.

(4) Short pins 8 (TP317) and 11 (TP313) of IC314 and adjust with RV316 so that the duty ratio of CH-2 waveform becomes 45%. (See Fig. 5-15)

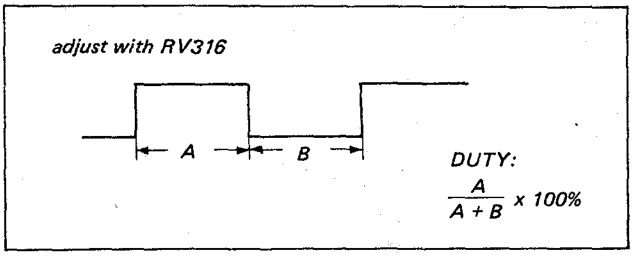

adjust with RV316
A
B
DUTY:
A / A + B x 100%

Fig. 5-15. FG amp DC bias adjustment (3)

3. Tracking Center Adjustment (SS-14 board)

Mode: Playback
Signal: Alignment tape βII or βIII color bar or monoscope
Oscilloscope: CH-1 Pin 13 of IC301 (TP306)
CH-2 Pin 15 of IC301 (TP303)
Adjustment method:

(1) Set the TRACKING knob to the center click position.

(2) Adjust to 860 μsec ± 20 μsec with RV305. (See Fig. 5-16)

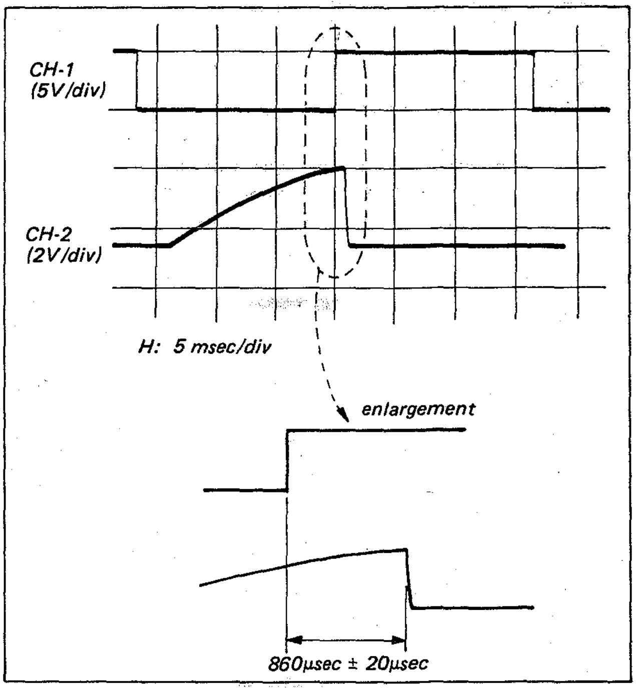

CH-1
(5V/div)
CH-2
(2V/div)
H: 5 msec/div
enlargement
860μsec ± 20μsec

Fig. 5-16. Tracking center adjustment

4. Edit Tracking Center Adjustment (SS-14 board)

Mode: Recording
Signal: Alignment tape βII or βIII color bar
Oscilloscope: CH-1 Pin 13 of IC301 (TP306)
CH-2 Pin 15 of IC301 (TP303)
Adjustment method:

(1) Set the TRACKING knob to the center click position.

(2) Adjust to 860 μsec ± 20 μsec with RV314. (See Fig. 5-17)

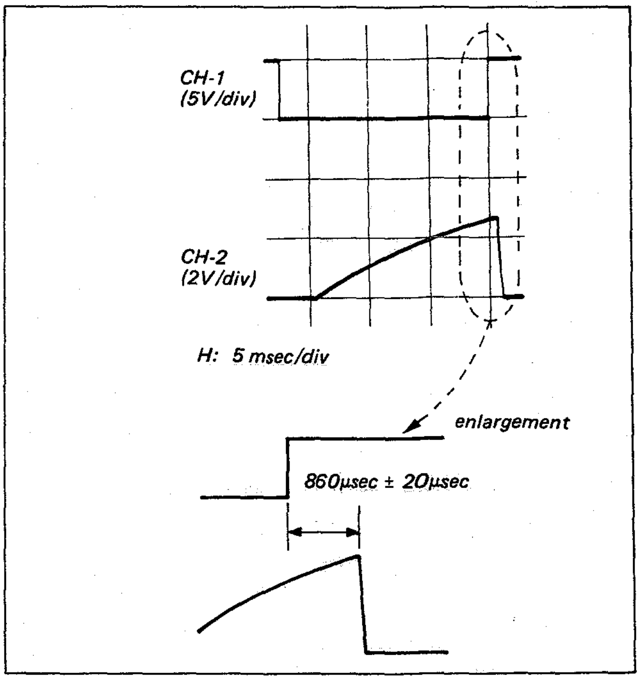

CH-1
(5V/div)
CH-2
(2V/div)
H: 5 msec/div
enlargement
860μsec ± 20μsec

Fig. 5-17. Edit tracking center adjustment

5. CTL Delay Adjustment (SS-14 board)

Mode: X1 RVS (Swing Search)

Signal: Color bar signals recorded in βIII mode.

Adjustment method:

(1) Set the TRACKING knob to the center click position.

(2) Adjust RV317 so that noise bars on the TV monitor screen disappear from the screen top or bottom (or are kept to a minimum). (See Fig. 5-18)

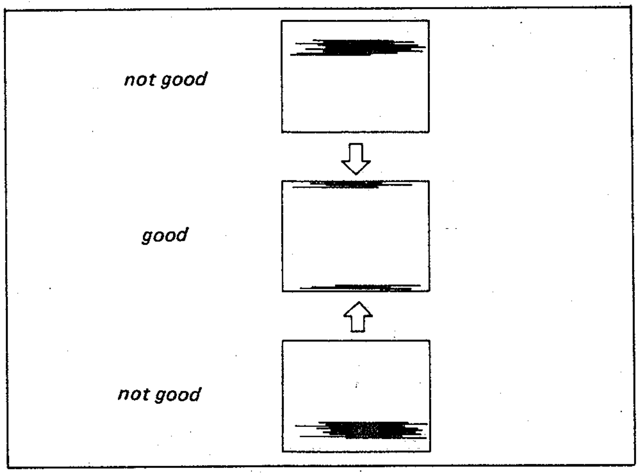


Fig. 5-18. CTL delay adjustment

5-3-4. Swing Search Servo Adjustment

1. FG Bias Adjustment (VL-5 board)

Mode: βII recording

Signal: Any signal

Oscilloscope: TP2 (Pin 3 of IC4)

Adjusting method:

(1) Reduce the shaking width to a minimum by RV3. (See Fig. 5-19)

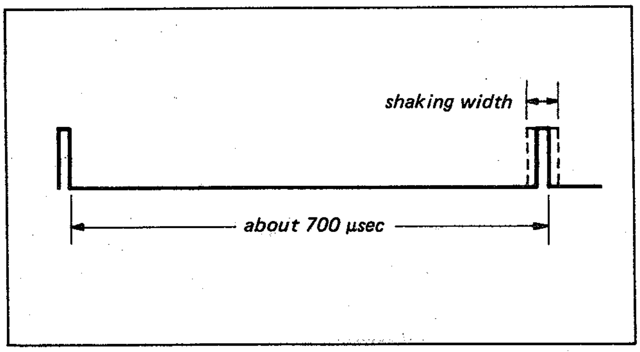


Fig. 5-19. FG bias adjustment

2. Position Signal Adjustment (VL-5 board)

- Record any signal in the βII mode.

Mode: Playback

Oscilloscope: CH-1 TP3 (Pin 1 of IC3)
CH-2 TP4 (Pin 4 of IC13)

Adjusting method:

(1) Reduce the step to a minimum by RV2. (See Fig. 5-20)

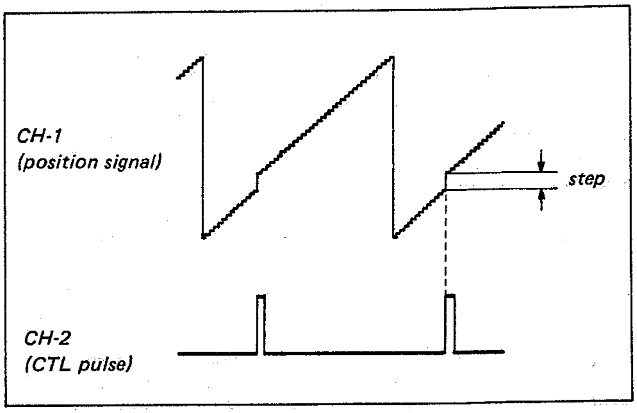


Fig. 5-20. Position signal adjustment

3. Slow Motion Adjustment (VL-5 board)

[Brake Width Adjustment]

- Adjust the βIII mode after adjusting in the βII mode.
- In parentheses are adjust devices during the βIII mode.
- Record an arbitrary signal in both βII and βIII modes.

Mode: 1/5 FWD slow motion

Oscilloscope: CH-1 TP3 (Pin 1 of IC3)
CH-2 TP7 (Pin 10 of IC9)

Adjustment method:

(1) Turn RV8 (RV9) full counterclockwise (↺) as viewed from the pattern side. (In this state, the pulse width of CH-2 will be minimum.)

(2) Turn RV8 (RV9) clockwise (↻) to eliminate the step. (See Fig. 5-21)

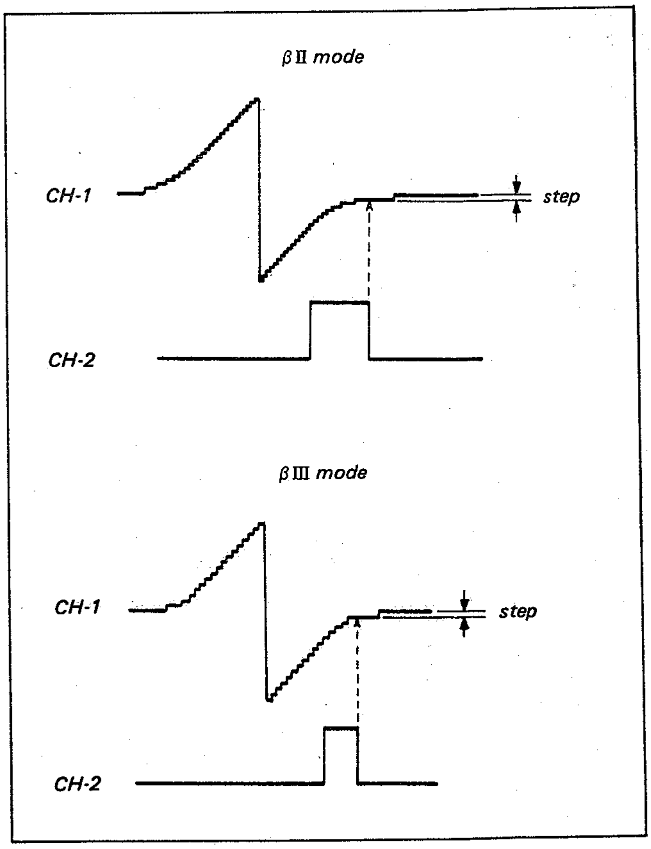


Fig. 5-21. Brake width adjustment

[Brake Position Adjustment]

- Adjust the βIII mode after adjusting in the βII mode.
- In parentheses are adjust devices during the βIII mode.
- Record an arbitrary signal in both βII and βIII modes.

Mode: 1/5 FWD slow motion
Oscilloscope: TP3 (Pin 1 of IC3)
Adjusting method:

(1) Adjust to 1.6V ± 0.1 V DC by RV4 (RV5). (See Fig. 5-22)

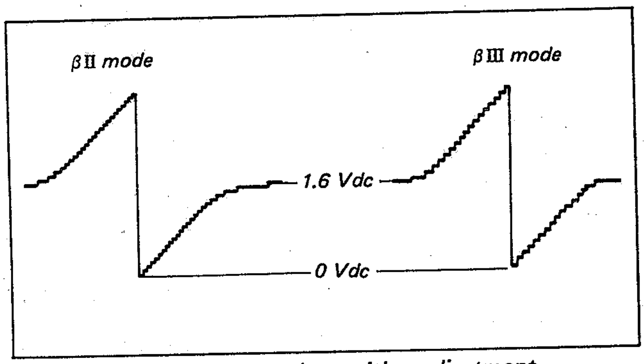


Fig. 5-22. Brake position adjustment

[Tracking Center Adjustment]

- Adjust the βIII mode after adjusting in the βII mode.
- In parentheses are adjust devices during the βIII mode.
- Record an arbitrary signal in both βII and βIII modes.

Mode: 1/5 FWD slow motion
Oscilloscope: CH-1 Pin 3 of CN2 on VI-1 board
CH-2 Pin 1 of CN2 on VI-1 board
Adjusting method:

(1) Set the slow motion tracking knob at the center click position.
(2) Adjust the waveform peak to be in center of A-CH by means of RV16 (RV18). (See Fig. 5-23)

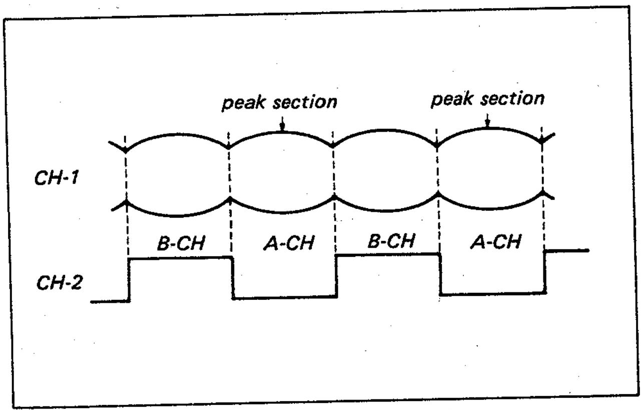


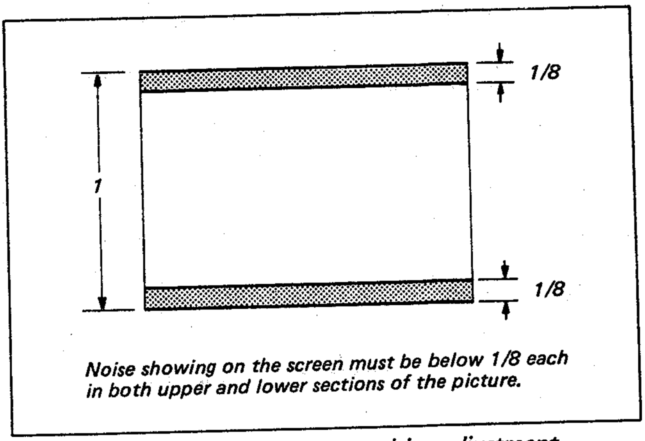
Fig. 5-23. Tracking center adjustment

[Capstan Motor Drive Adjustment]

- Record an arbitrary signal in the βII mode.

Mode: 1/5 RVS slow motion
Adjusting method:

(1) Adjust to conceal noise below or above the screen as best as you can by RV17 while watching the monitor TV set. (See Fig. 5-24)
(2) Make sure that is no noise when in the still mode.



Noise showing on the screen must be below 1/8 each in both upper and lower sections of the picture.

Fig. 5-24. Capstan motor drive adjustment

(3) There shall be no noise in the FWD FRAME-BY-FRAME mode. Make sure that noise in the 1/5 REV SLOW MOTION and REV FRAME-BY-FRAME modes is within the range shown in Fig. 5-24. .

4. Drum Shift Adjustment (VL-5 board)

[STILL f_H Adjustment]

Signal: Alignment tape βII color bar signal, or monoscope signal
Mode: STILL
Oscilloscope: Pin 1 of CN3
Adjustment method:

(1) Adjust f_H during the STILL mode by RV1 to be equal to f_H in the E-E mode. (See Fig. 5-25)

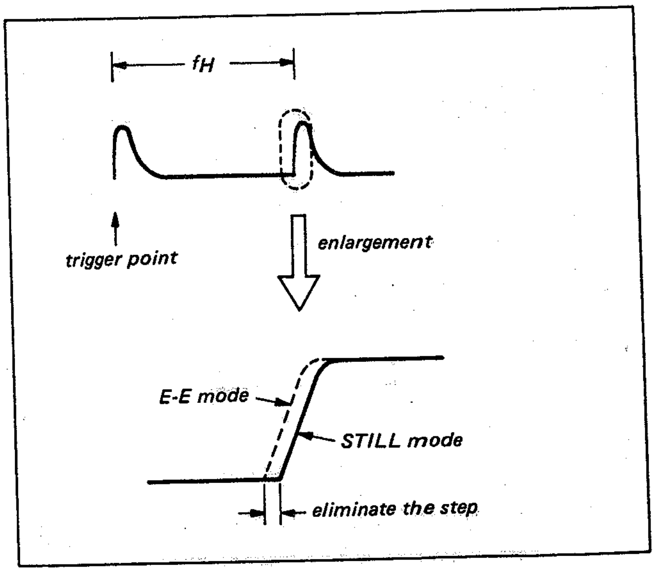


Fig. 5-25. STILL f_H adjustment

[SLOW f_H Adjustment]

Signal: Alignment tape βII color bar signal, or monoscope signal

Mode: 1/5 FWD slow motion and 1/5 RVS slow motion.

Oscilloscope: Pin 1 of CN3

Adjusting method:

(1) Reduce the shaking width of f_H by RV13 during 1/5 FWD slow motion to a minimum. (See Fig. 5-26)

(2) Reduce the shaking width of f_H during the 1/5 RVS slow motion by using RV12 to a minimum.

(3) Repeat Steps (1) and (2) alternately to reduce the shaking width for both FWD and RVS to a minimum. (See Fig. 5-26)

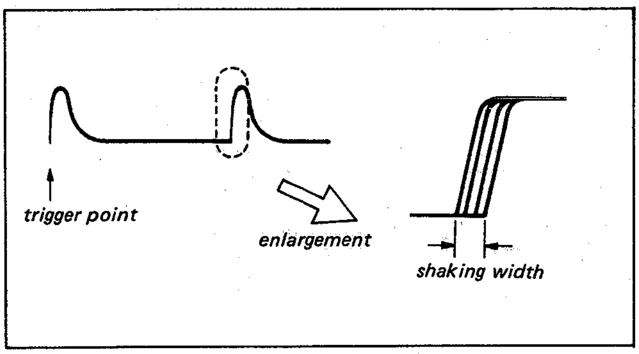

trigger point
enlargement
shaking width

Fig. 5-26. SLOW f_H adjustment

5. VD Adjustment (VL-5 board)

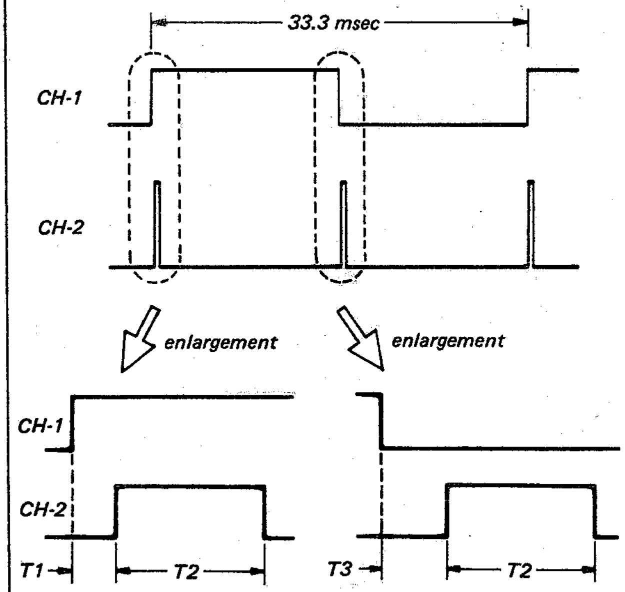
Signal: Alignment tape βIII color bar signal or monoscope signal.

Mode: STILL

Oscilloscope: CH-1 Pin 1 of CN2
CH-2 Pin 7 of CN3

Adjusting method:

(1) Adjust as shown in Fig. 5-27 by using RV11, RV15, and RV10.


33.3 msec
CH-1
CH-2
enlargement
enlargement
CH-1
CH-2
T1
T2
T3
T2

T1: Adjust to 170 μsec ± 5 μsec by RV11.
T2: Adjust to 570 μsec ± 20 μsec by RV15.
T3: Adjust to 232 μsec ± 5 μsec by RV10.

Note: *Adjust RV10 after adjusting RV11.*

Fig. 5-27. VD adjustment

6. Edit Adjustment (SS-14 and VL-5 boards)

- Adjust in both βII and βIII modes.

Mode: Record

Signal: Arbitrary signal

Oscilloscope: CH-1 SS-14 board pin 4 of IC301
CH-2 SS-14 board pin 21 of IC301
Input: DC range

Adjustment method:

(1) Set up the PAUSE mode. (more than 3 sec)

(2) Depress the PAUSE button again, and after PAUSE button is released, adjust RV6 (βII) and RV7 (βIII) on the VL-5 board so that CH-2 drops CH-1 rises (beginning of RECORD). (See Fig. 5-28)

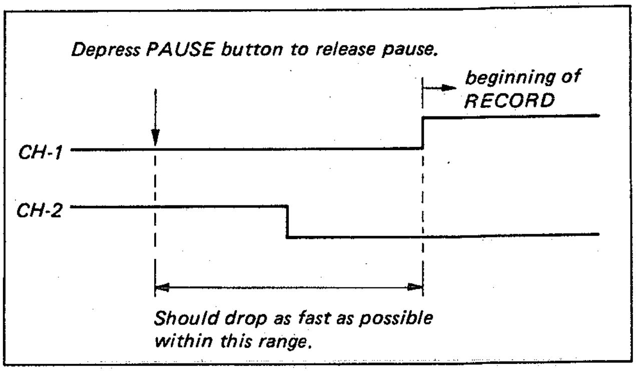

Depress PAUSE button to release pause.
beginning of RECORD
CH-1
CH-2
Should drop as fast as possible within this range.

Fig. 5-28. Edit adjustment

(3) Repeat; PAUSE ---- release of PAUSE two or three times, and check that the result meets Paragraph (2).

(4) Make self-recording the playback and check that edits are free of noise.

5-4. VIDEO SYSTEM ALIGNMENT

As a rule, first the playback system is aligned with an alignment tape to check that it operates normally, then the recording system is aligned.

The alignment sequence is shown below. The Y signal and chroma signal systems are aligned for both playback and recording systems.

Color video signals supplied by the pattern generator is used for video system alignment in the record mode. Check that the sync and color burst signals conform to the specifications designated in "Preparatory Set-up for Alignment" in Fig. 5-1.

5-4-1. [Playback system alignment]
1. Playback amplifier frequency response adjustment
2. De-emphasis level adjustment
3. Playback Y signal level adjustment

5-4-2. [Record system alignment]
1. VCO frequency alignment and VCO lock check
2. Comb filter adjustment
3. Comb AGC adjustment
4. Sync AGC and peak AGC adjustment
5. RFU MOD adjustment
6. Y-FM carrier 1 adjustment
7. FM modulator deviation adjustment
8. Y-FM carrier 2 adjustment
9. White clip and dark clip adjustment
10. ½f_H shift
11. Y-FM record current adjustment
12. Over record adjustment
13. Carrier balance adjustment
14. Chroma record current adjustment

5-4-3. [Slow motion playback system alignment]
1. Skew frequency adjustment
2. Slow AGC adjustment
3. Slow delay Y signal level adjustment
4. Slow delay chroma signal level adjustment

5-4-1. Playback System Alignment

1-1). Playback Amplifier Frequency Response Adjustment (VI-1 board, RP-10 board)

- Adjust both A- and B-ch.
- B-ch is indicated by ( ).

Mode: Playback
Signal: Alignment tape βII RF sweep
Oscilloscope: Pin 3 of CN2
External trigger: Pin 1 of CN2

Adjustment method:

(1) Increase the output level to maximum with the TRACKING knob.
(2) Set the trigger slope to – (+).
(3) Adjust RV1 (RV2) on RP-10 board so that 3.58MHz ~ 5.1MHz becomes flat.
(4) Adjust RV4 on RP-10 board so that B-ch level is equal to A-ch.

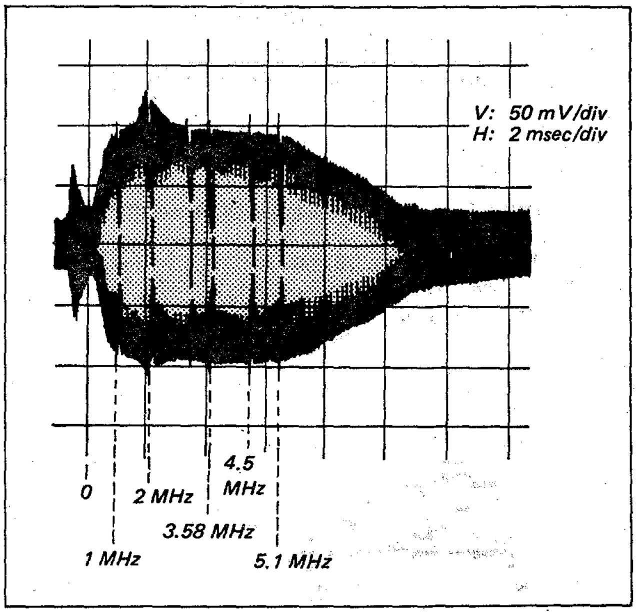


Fig. 5-29. Playback amplifier frequency response adjustment

1-2). Playback Y, A'-ch Frequency Response Adjustment (VI-1 board, RP-10 board)

Mode: Playback
Signal: Alignment tape βII RF sweep
Oscilloscope: Pin 3 of CN2
External trigger: Pin 1 of CN2

Adjustment method:

(1) VI-1 board: Pin 5 of CN2 to GND.
SS-14 board: Pin 2 of CN310 to 5V.
(2) Set the trigger slope to – (+).
(3) Adjust RV3 on RP-10 board so that 3.58MHz ~ 5.1MHz becomes flat.
(4) Adjust RV5 on RP-10 board so that the level is A-ch normal playback level. (obtained in 1-1).

2. **De-emphasis Level Adjustment (VI-1 board)**
Mode: Playback
Signal: Alignment tape βII color bar
Oscilloscope: Pin 16 of IC15
Adjustment method:
Adjust to 1.3V ± 0.05 Vp-p with RV10. (See Fig. 5-30)

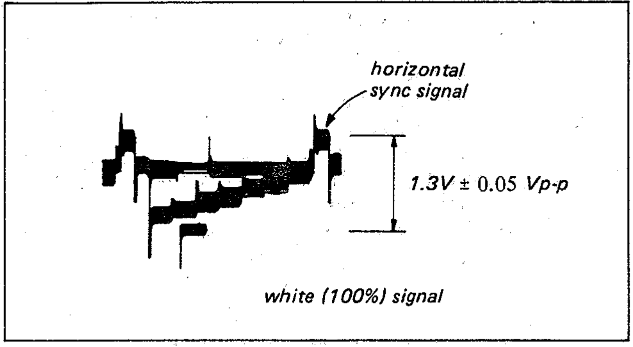

horizontal sync signal
1.3V ± 0.05 Vp-p
white (100%) signal

Fig. 5-30. De-emphasis level adjustment

3. **Playback Y Signal Level Adjustment (VI-1 board)**
Mode: Playback
Signal: Alignment tape βII color bar
Oscilloscope: TP2 (video out of CN13)
Adjustment method:
Adjust to 1.0V ± 0.05 Vp-p with RV15.

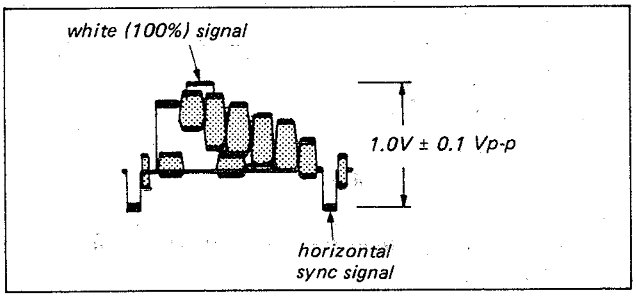

white (100%) signal
1.0V ± 0.1 Vp-p
horizontal sync signal

Fig. 5-31. Playback Y signal level adjustment

5-4-2. Record System Alignment

1. **VCO Frequency Alignment and VCO Lock Check (VI-1 board)**
Mode: Record or E-E
Signal: Color bar
Oscilloscope: CH-1 Pin 6 of IC10
Frequency counter: Pin 6 of IC10
Digital voltmeter: + of C424
Adjustment method:
Adjust to 1.4 Vdc with RV22.
Note: The frequency also changes when RV22 is turned. Verify that the frequency is locked to f=5,507MHz. Be sure to use digital voltmeter to measure voltage.

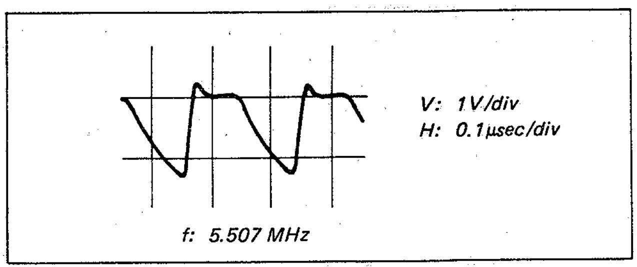

V: 1V/div
H: 0.1μsec/div
f: 5.507 MHz

Fig. 5-32. VCO frequency alignment and VCO lock check

2. **Comb Filter Adjustment (VI-1 board)**
Mode: Record or E-E
Signal: Color bar
Oscilloscope: Pin 9 of IC4
Adjustment method:
Minimize the residual chroma component by alternately adjusting RV17 and LV1. (See Fig. 5-33)

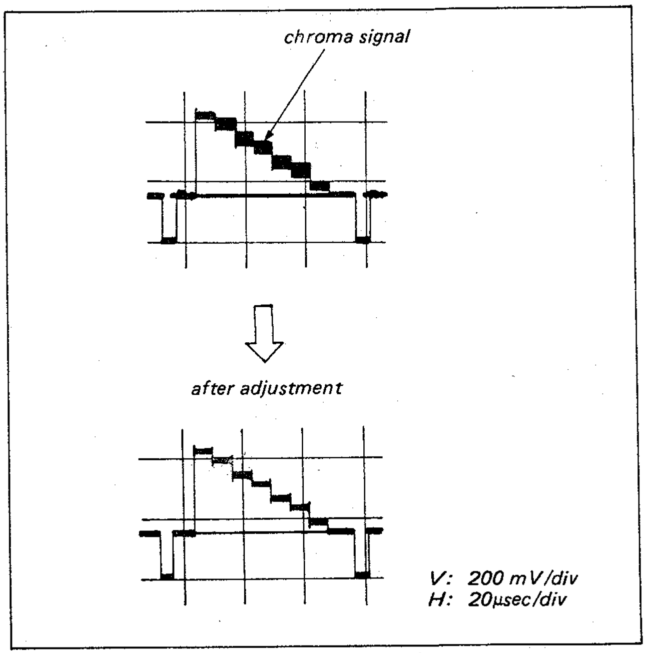

chroma signal
after adjustment
V: 200 mV/div
H: 20μsec/div

Fig. 5-33. Comb filter adjustment

3. **Comb AGC Adjustment (VI-1 board)**

Mode: Record or E-E

Signal: Color bar

Oscilloscope: Pin 8 of IC5 (Attach 22 kΩ resistor to tip of probe (10:1))

Adjustment method:

Adjust to eliminate level differences for each H step with RV16. (See Fig. 35)

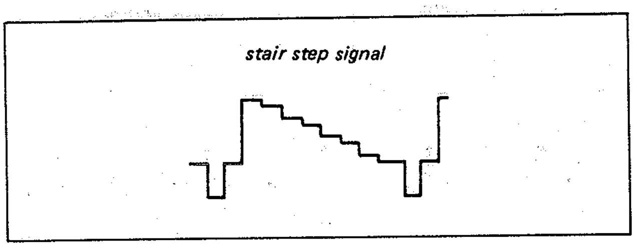

stair step signal

Fig. 5-34. Record signal

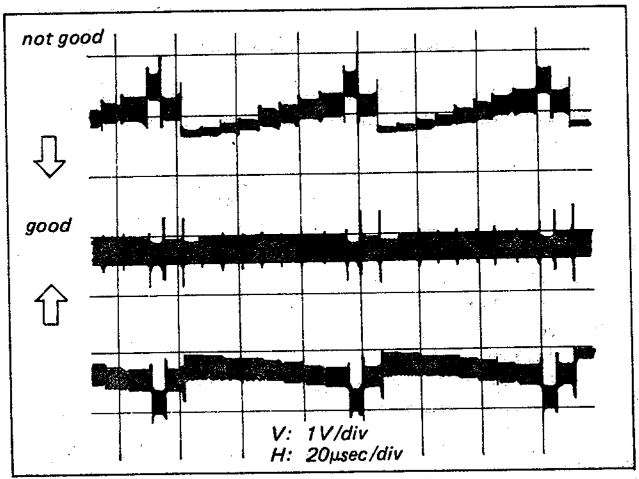


Fig. 5-35. Comb AGC adjustment

4. **Sync AGC and Peak AGC Adjustment (VI-1 board)**

Mode: Record or E-E

Signal: Color Bar

Oscilloscope: TP-2 (video out of CN13)

Adjustment method:

(1) Turn RV20 fully counterclockwise (↺) as seen from the pattern side.

(2) Adjust to 1.10 Vp-p with RV19.

(3) Slowly turn RV20 clockwise (↻) and set it so that the output just starts to lower.

(4) Adjust to 1.0V ± 0.05 Vp-p with RV19. (See Fig. 5-36)

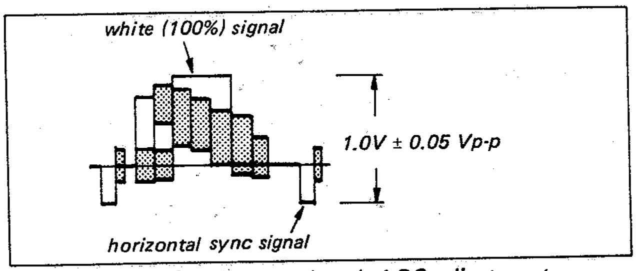

white (100%) signal
1.0V ± 0.05 Vp-p
horizontal sync signal

Fig. 5-36. Sync and peak AGC adjustment

5. **RFU MOD Adjustment (VI-1 board)**

Mode: Record or E-E

Signal: Color bar

Oscilloscope: Pin 4 of CN5

Adjustment method:

(1) Ground pin ④ of CN5 by connecting a 1kΩ resistor between it and GND.

(2) Adjust to 1.00V ± 0.05Vp-p with RV34. (See Fig. 5-37)

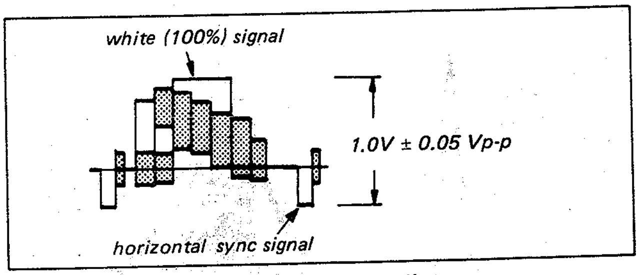

white (100%) signal
1.0V ± 0.05 Vp-p
horizontal sync signal

Fig. 5-37. RFU MOD adjustment

6. **Y-FM Carrier 1 Adjustment (VI-1 board)**

Mode: Record or E-E

Signal: None

Frequency counter: Pin 4 of IC3

Adjustment method:

(1) Set to BETA HIFI recording mode. (AUDIO REC B HI-FI switch: ON)

(2) Adjust to 4.00MHz ± 0.05MHz with RV11. (See Fig. 5-38)

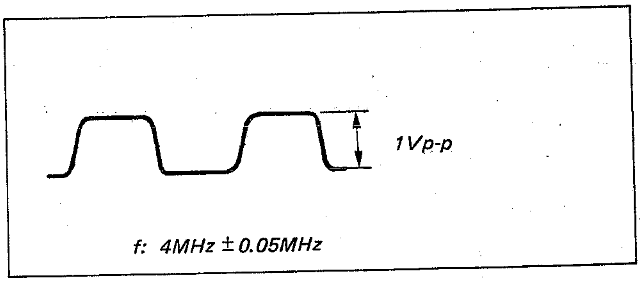

1Vp-p
f: 4MHz ±0.05MHz

Fig. 5-38.

7. **FM Modulator Deviation Adjustment (VI-1 board)**
Mode: Record or E-E
Signal: Color bar
Spectrum analyzer: Pin 4 of IC3
Adjustment method:
(1) Adjust the spacing between f_2 and f_1 to 1.27MHz ± 0.05MHz with RV21. (See Fig. 5-39)

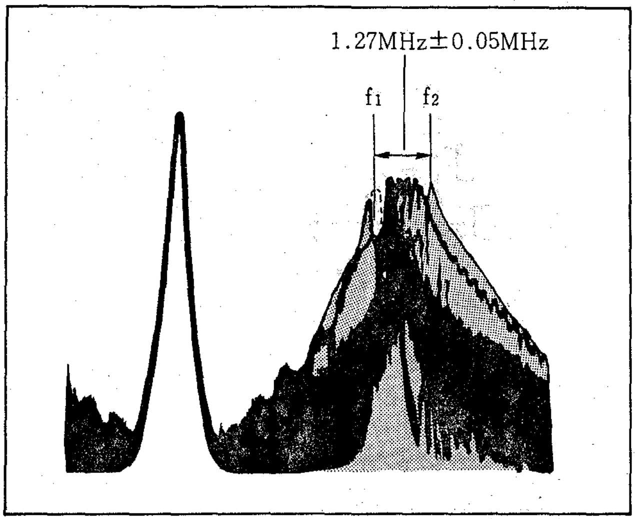


Fig. 5-39. FM Modulator Deviation Adjustment

8. **Y-FM Carrier 2 Adjustment (VI-1 board)**
Mode: Record or E-E
Signal: None
Frequency counter: Pin 4 of IC3
Adjustment method:
(1) Set to NORMAL recording mode
(Record with AUDIO REC B HIFI sw. turned off.)
(2) Adjust to 3.6MHz ± 0.05MHz with RV33. (See Fig. 5-40)

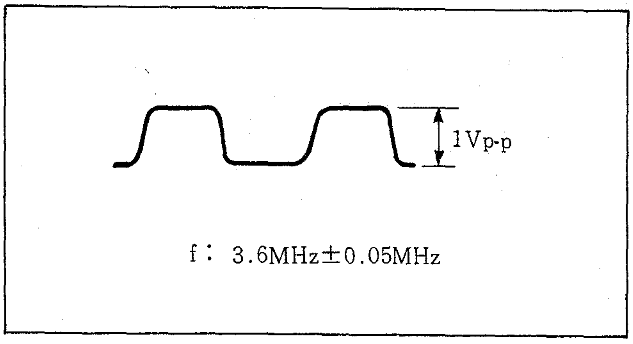


Fig. 5-40 Y FM carrier 2 adjustment

9. **White Clip and Dark Clip Adjustment (VI-1 board)**
Mode: Record or E-E
Signal: None
Digital voltmeter: See Fig. 5-41

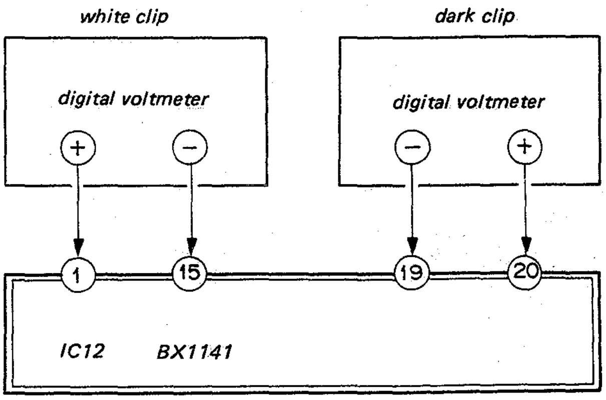


Fig. 5-41. Connection

Adjusting white clip: Adjust to 0.15V ± 0.05V with RV12.
Adjusting dark clip: Adjust to 0V ± 0.05V potential difference with RV13.

10. **½f_H Shift (VI-1 board)**
Mode: Record
Signal: None
Spectrum analyzer: Pin 4 of IC3
Adjustment method:
(1) Adjust RV14 so that the fluctuation of frequency is 7.87kHz ± 1kHz.

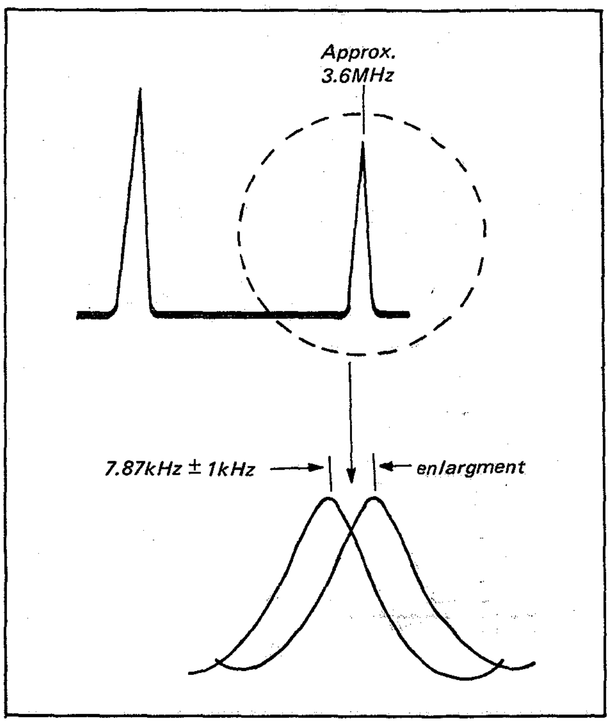


Fig. 5-42. ½f_H shift

11. **Y-FM Record Current Adjustment (VI-1 board, RP-10 board)**
Mode; Record (AUDIO REC B HIFI switch: ON)
Signal: None
Oscilloscope: TP1 on RP-10 board
Adjustment method:
Adjust RV1 to obtain the levels listed below.
(See Fig. 5-43A, B)

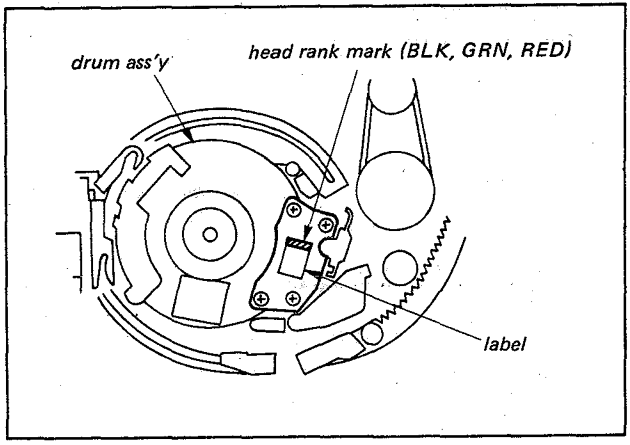

drum ass'y
head rank mark (BLK, GRN, RED)
label

Fig. 5-43A Position of head rank mark

Head rank	Mark	Level
A	BLK	4.1V ± 0.05Vp-p
B	GRN	4.5V ± 0.05Vp-p
C	RED	4.8V ± 0.05Vp-p

Table 2.

Note: Replacement drum heads are rank B. When the drum head is replaced, adjust for rank B.

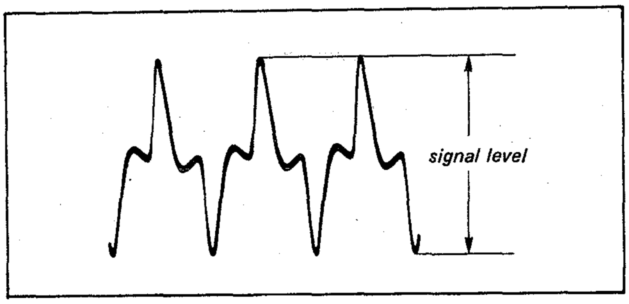

signal level

Fig. 5-43B Y-FM record current adjustment

12. **Over Record Adjustment (VI-1 board)**
Mode: Record or E-E
Signal: None
Oscilloscope: Pin 2 of CN14
Adjustment method:
(1) Short pin ⑨ of CN4 to GND.
(2) Adjust the signal level with RV31 to 125% ± 10% of the level before shorting. (See Fig. 5-44)

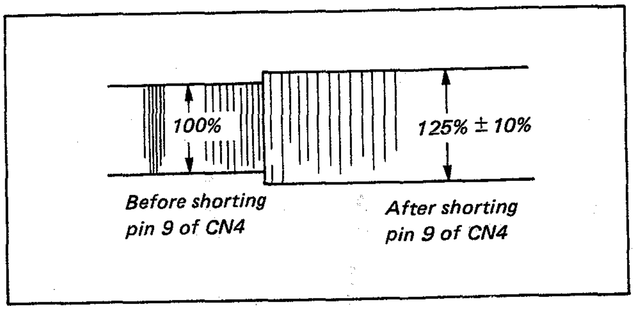

100%
125% ± 10%
Before shorting pin 9 of CN4
After shorting pin 9 of CN4

Fig. 5-44 Over record adjustment

13. **Carrier Balance Adjustment (VI-1 board)**
Mode: Playback
Signal: Alignment tape βII color bar
Spectrum analyzer: Pin 10 of IC92
Adjustment method:
Adjust 4.27MHz component with RV32 to a level lower than the 3.58MHz component by 25dB. (See Fig. 5-45)

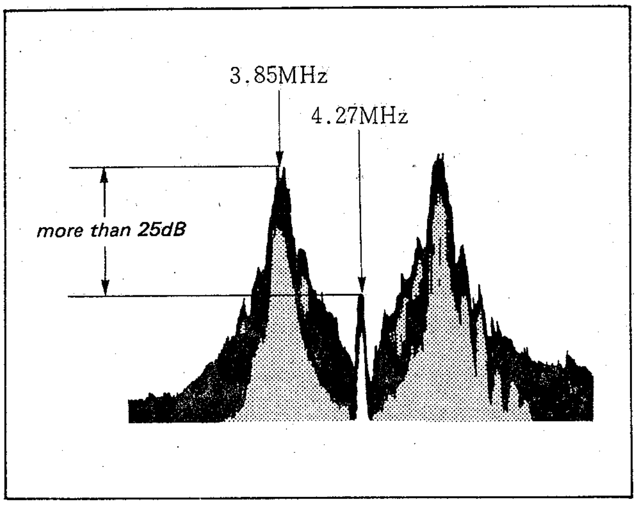


Fig. 5-45. Carrier balance adjustment

14. **Chroma Record Current Adjustment (VI-1 board)**
Mode: Record
Signal: Color bar
Oscilloscope: Pin 4 of CN14

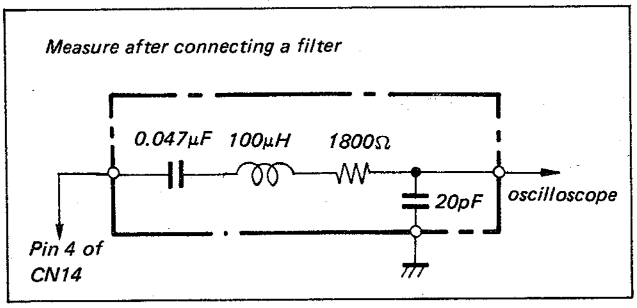


Fig. 5-46.

Adjustment method:
Adjust the level of the color bar "cyan" to 220mV ± 10 mVp-p with RV8. (See Fig. 5-47)

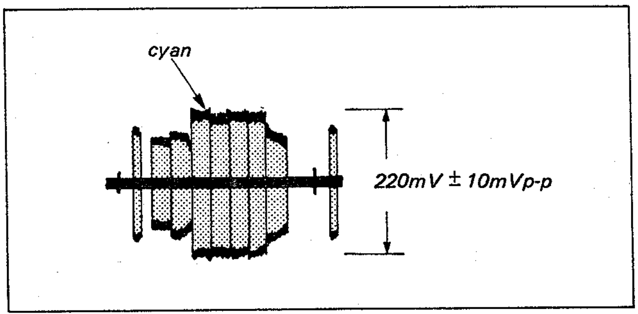


Fig. 5-47. Chroma record current adjustment

5-4-3. Slow Motion Playback System Alignment

1. **Skew Frequency Adjustment (VI-1 board)**
Mode: Playback + Pause
Signal: Unrecorded clean
Frequency counter: Pin 5 of CN3
Connection: Open CN3
Adjustment method:
Adjust to 16.0 kHz ± 0.05 kHz with RV025. (See Fig. 5-48)

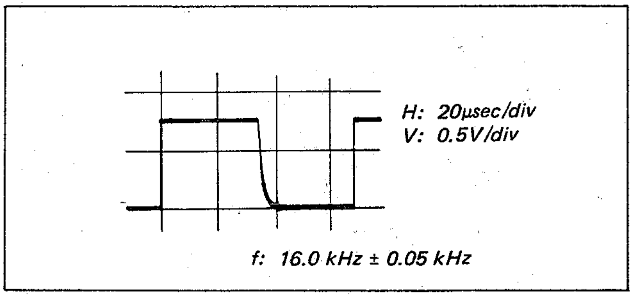


Fig. 5-48. Skew frequency adjustment

2. **Slow AGC Adjustment (VI-1 board)**
Mode: Playback + Pause
Signal: Alignment tape βII or βIII color bar
Oscilloscope: TP2 (VIDEO OUT of CN13)
Adjustment method:
Set for identical output levels during both playback and pause with RV26.

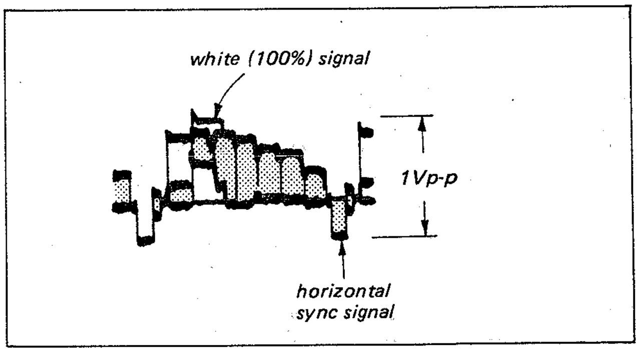


Fig. 5-49. Slow AGC adjustment

3. **Slow Delay Y Signal Level Adjustment (VI-1 board)**
Mode: Playback + Pause
Signal: Alignment tape βII (βIII) color bar
Oscilloscope: CH-1 Pin 12 of IC11
CH-2 Pin 1 of IC11
Input: DC range
Adjustment method:
Adjust RV27 (βIII: RV28) so that the signal level is 1.16 ± 0.1 (B/A = 1.16 ± 0.1) (See Fig. 5-50)

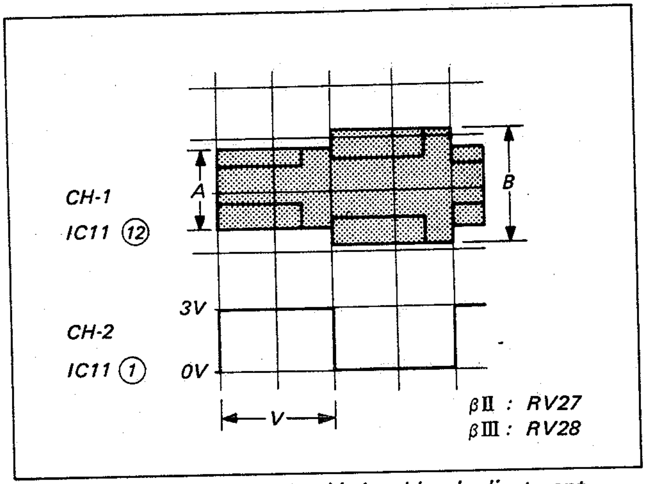

CH-1
IC11 ⑫
A
B
CH-2
IC11 ①
3V
0V
V
βII : RV27
βIII : RV28

Fig. 5-50. Slow delay Y signal level adjustment

4. **Slow Delay Chroma Signal Level Adjustment (VI-1 board)**
Mode: Playback + Pause
Signal: Alignment tape βIII, βII color bar
Oscilloscope: CH-1 TP2 (video out of CN13)
Adjustment method:
(1) Adjust RV30 to minimize level deviation of chroma. (See Fig. 5-51)
(Confirm that flicker is the minimum on the monitor screen)

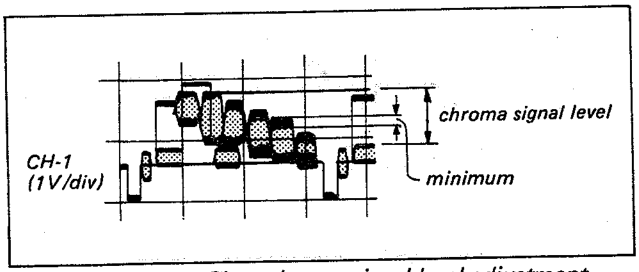

CH-1
(1V/div)
chroma signal level
minimum

Fig. 5-51. Slow chroma signal level adjustment

(2) βII Pause mode
Adjust RV29 to minimize level deviation of chroma.

5-5. AUDIO SYSTEM ADJUSTMENT (AS-7W BOARD, AF-1 BOARD)

Adjustments of the audio system shall be made in the βIII mode, otherwise note. Use a Dynamicron tape for adjustments.

[Connection of Related Equipment]

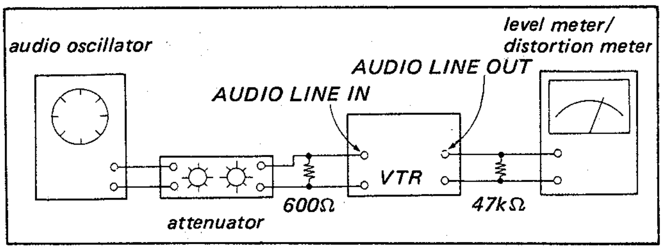


Fig. 5-52.

[Adjustment Sequence]

1. ACE head adjustment . . . . . See "Mechanical Adjustment"
2. Playback frequency characteristic adjustment
3. Playback output level adjustment
4. AGC balance adjustment
5. Bias oscillator check
6. Bias trap adjustment
7. Dubbing bias adjustment
8. Record bias adjustment
9. Record current adjustment
10. Overall frequency characteristic check
11. Overall S/N check
12. Overall distortion check
13. BETA HIFI Recording carrier wave level adjustment.
14. Dynamic emphasis decorder gain and playback L-ch (R-ch) adjustment
15. BETA HIFI deviation adjustment
16. L-ch (R-ch) limiter adjustment

5-5-1. ACE Head Adjustment

Refer to "Mechanical Adjustment"

5-5-2. Playback Frequency Characteristic Adjustment (AS-7W board)

Mode: Playback
Signal: Alignment tape (Note: βII)
AUDIO OUT B HIFI switch: OFF
AUDIO OUT NORMAL switch: AUTO
Playback 333Hz and 5kHz from the alignment tape and adjust so that the level difference between 333Hz and 5kHz 0dB ± 1dB with RV301.

5-5-3. Playback Output Level Adjustment (AS-7W board)

Mode: Playback
Signal: Alignment tape (Note: βII)
AUDIO OUT B HIFI switch: OFF
AUDIO OUT NORMAL switch: AUTO
Playback 333Hz from the alignment tape and adjust so that the output level is –30dB ± 1dB with RV302.

5-5-4. AGC Balance Adjustment (AS-7W board)

Mode: E-E
AUDIO OUT B HIFI switch: ON
AUDIO OUT NORMAL switch: AUTO

(1) Terminate Audio line Output terminal with a 47kΩ resistor, and connect VTVM to it.
(2) Input 1kHz, +10dB signals to both channel 1 and 2 of the Audio input line.
(3) Minimize the level difference between channels 1 and 2 with RV102.
Specification: within ± 0.5dB.

5-5-5. Bias Oscillator Check (AS-7W board)

(1) Set the input signal level to zero and set up the RECORD mode.
(2) Connect a frequency counter to T501. The reading should be 65kHz ± 6.5kHz. (See Fig. 5-53).

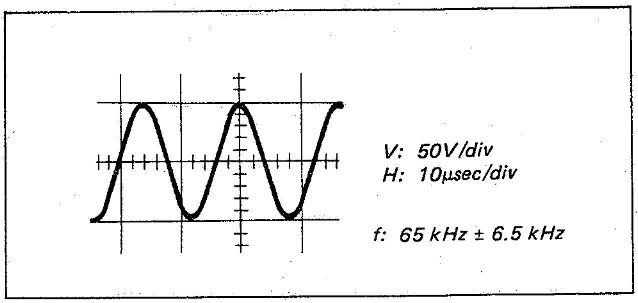


Fig. 5-53. Bias oscillator check

5-5-6. Bias Trap Adjustment (AS-7W board)

(1) Set the input signal level to zero and set up the RECORD mode.
(2) Connect an oscilloscope to TP303.
(3) Adjust LV301 for minimum bias leak.
Value: minimum level below 1.2Vp-p. (See Fig. 5-54)

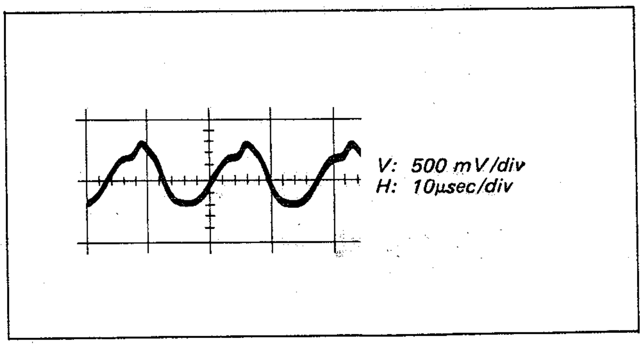


Fig. 5-54. Bias trap adjustment

5-5-7. Dubbing Bias Adjustment (AS-7W board)

(1) Set the input signal level to zero and set up DUBBING mode.

(2) Measure the frequency with a frequency counter as per 5-5-5 (2), and adjust with LV501 to bring it to the recorded level (value measured under 5-5-5).

5-5-8. Record Bias Adjustment (AS-7W board) (Note: βII)

Check that "Playback frequency characteristic adjustment" has been made.

AUDIO OUT B HIFI switch: OFF
AUDIO OUT NORMAL switch: AUTO
REC LEVEL switch: MAN.

(1) Supply a 333Hz signal.

(2) Set up the E-E mode and adjust the oscillator output level so that the level meter reading is –30dB.

(3) Record signals.

(4) Supply a frequency of 7kHz and perform Steps (2) and (3) above.

(5) Playback the recorded section of the tape and check that the output level at 7kHz is 0dB ± 1dB relative to the output level at 333Hz. If the level is outside this range, repeat Steps (1) through (4) adjusting with CV301 until the standard is met.

5-5-9. Record Current Adjustment (AS-7W board) (Note: βII)

AUDIO OUT B HIFI switch: OFF
AUDIO OUT NORMAL switch: AUTO
REC LEVEL switch: MAN.

(1) Supply a 333Hz signal.

(2) Set up the E-E mode and adjust the oscillator output level so that the level meter reading is –10dB.

(3) Record signals.

(4) Playback the recorded section of the tape and check that the output level is –9dB ± 1dB. If the level is outside this range, repeat Steps (1) through (3) above adjusting with RV303 until the standard value is obtained.

(5) Verify that the record bias adjustment has been completed.

5-5-10. Overall Frequency Characteristic Check (Note: βII)

AUDIO OUT B HIFI switch: OFF
AUDIO OUT NORMAL switch: AUTO
REC LEVEL switch: MAN.

(1) Connect a 333Hz signal.

(2) Set up the E-E mode and adjust the oscillator output level so that the level meter reading is –30dB.

(3) Record signals.

(4) Change the frequency to 50Hz, 100Hz, 333Hz, 7kHz, and 10kHz and repeat Steps (2) and (3).

(5) Playback the recorded section of the tape and verify that the level is within the specification. (See Fig. 5-55)

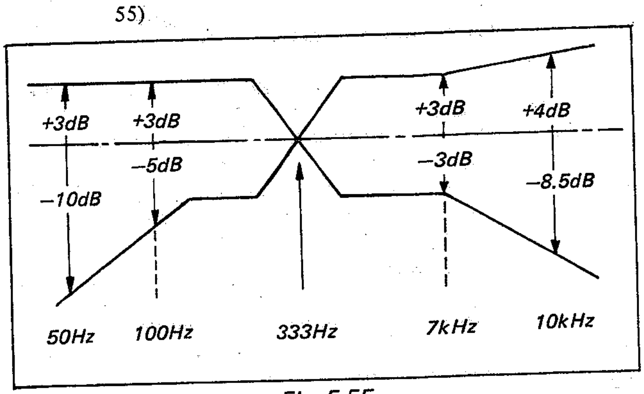


Fig. 5-55.

(6) Set the AUDIO OUT B HIFI switch to ON and connect a 400Hz signal.

(7) Set up the E-E mode and adjust the oscillator output level so that the level meter reading is –30dB.

(8) Record signals.

(9) Change the frequency to 20Hz, 100Hz, 400Hz, 10kHz and 20kHz and repeat Steps (7) and (8).

(10) Playback the recorded section of the tape and verify that the level is within the specification. (See Fig. 5-56)

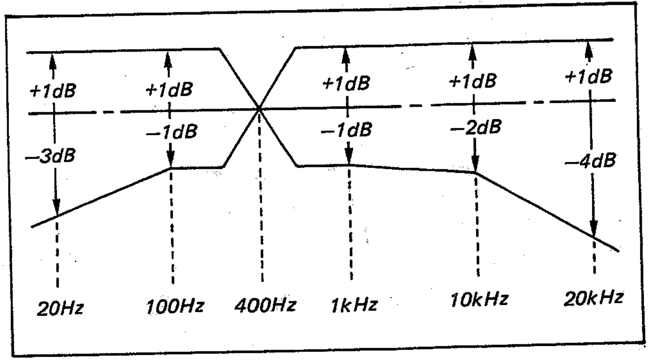


Fig. 5-56.

5-5-11. Overall S/N Check (Note: βII)

AUDIO OUT B HIFI switch: OFF
AUDIO OUT NORMAL switch: NORMAL

(1) Set the input signal level to zero and record signals.
(2) Supply a 333Hz, −10dB signal.
(3) Record signals.
(4) Playback the recorded section of the tape and check that the output level difference is greater than 38dB.

5-5-12. Overall Distortion Check (Note: βII)

(1) Supply a 333Hz, −10dBs signal.
(2) Record signals.
(3) Playback the recorded section of the tape and verify that the distortion is below 4.5%.

5-5-13. BETA HIFI Recording Carrier Wave Level Adjustment (AF-1 board)

Mode: Record (AUDIO REC B HIFI switch: ON)
Signal: None

(1) Carrier wave 1 (1.38MHz) level adjustment
  1. Connect jumpers across GND and TP802, TP901 and TP902 respectively.
  2. Connect the oscilloscope to pin 1 of CN607.
  3. Adjust wave height to 210mVp-p with RV801.

(2) Carrier wave 2 (1.68MHz) level adjustment
  1. Connect jumper across GND and TP801, TP802 and TP902 respectively.
  2. Connect the oscilloscope to pin 1 of CN607.
  3. Adjust wave height to 210mVp-p with RV901.

(3) Carrier wave 3 (1.53MHz) level adjustment
  1. Connect jumper across GND and TP801, TP901 and TP902 respectively.
  2. Connect the oscilloscope to pin 3 of CN607.
  3. Adjust wave height to 230mVp-p with RV802.

(4) Carrier wave 4 (1.83MHz) level adjustment
  1. Connect jumper across GND and TP801, TP802 and TP901 respectively.
  2. Connect the oscilloscope to pin 3 of CN607.
  3. Adjust wave height to 230mVp-p with RV902.

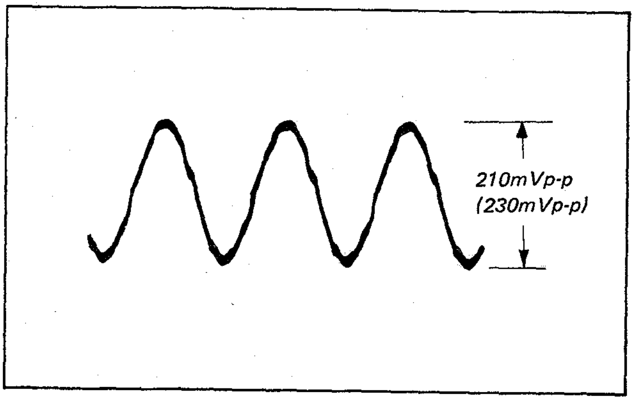


Fig. 5-57. Recording carrier wave level adjustment

5-5-14. Dynamic Emphasis Decoder Gain and Playback L-ch (R-ch) Adjustment (AF-1 board)

(1) Playback alignment tape in the BETA HIFI mode.
(2) Adjust RV603 (RV703) until VTVM level at TP601 (TP701) becomes −15dB.
(3) Adjust RV601 (RV701) until VTVM level on pin 1 (pin 2) of CN602 becomes −21.5dB ± 0.5dB.

5-5-15. BETA HIFI Deviation Adjustment (AF-1 board)

AUDIO REC B HIFI switch: ON
REC LEVEL switch: MAN.

(1) Turn RV606 (RV706) fully CCW (↺).
(2) Input −21.5dB 400Hz signal to AUDIO line input terminal.
(3) Adjust RV605 (RV705) until the EE mode AUDIO line output and the playback output of a self-recorded tape become equal.

5-5-16. L-ch (R-ch) Limiter Adjustment

(1) With the REC LEVEL switch turned MAN, input 400Hz signal to AUDIO line input terminal, and adjust the attenuator until VTVM level becomes −3dB.
(2) Connect the oscilloscope to Q616 (Q716) emitter.
(3) Turn RV606 (RV706) until the waveform is just short of being clipped. (See Fig. 5-58)

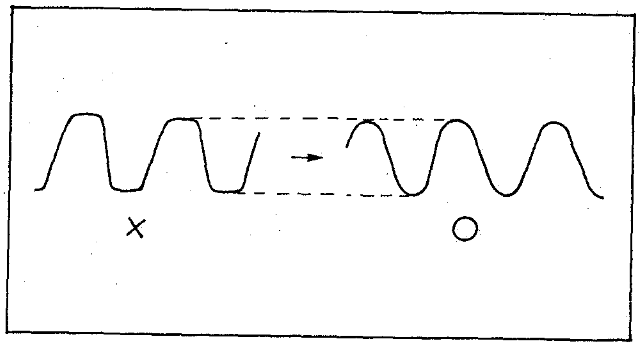


Fig. 5-58. Lch (Rch) limiter adjustment

5-6. TUNER SYSTEM ADJUSTMENT (TU-33 BOARD)

5-6-1. VHF (UHF) AGC Adjustment

NORM/CATV switch: NORM

(1) Receive broadcast TV signals in the highest contrast.

(2) Turn RV002 (RV001) until snow (intensity-modulated display) noise appears on the TV screen.

(3) Turn RV002 (RV001) backward until the snow (intensity-modulated display) noise disappears.

(4) Receive signals of all channels in turn, and ensure that there is no cross modulation beat, image deformation nor snow noise effect.

5-6-2. Audio Level Adjustment

NORM/CATV switch: NORM

(1) Input 400Hz ± 15kHz FM (60% depth of modulation) RF signal.

(2) Adjust RV004 until level at TP4 becomes −20dB±0.5dB.

Note: With input signal modulation depth at 80%, adjust to −17.2dB ± 0.5dB.

5-6-3. MPX Level Adjustment

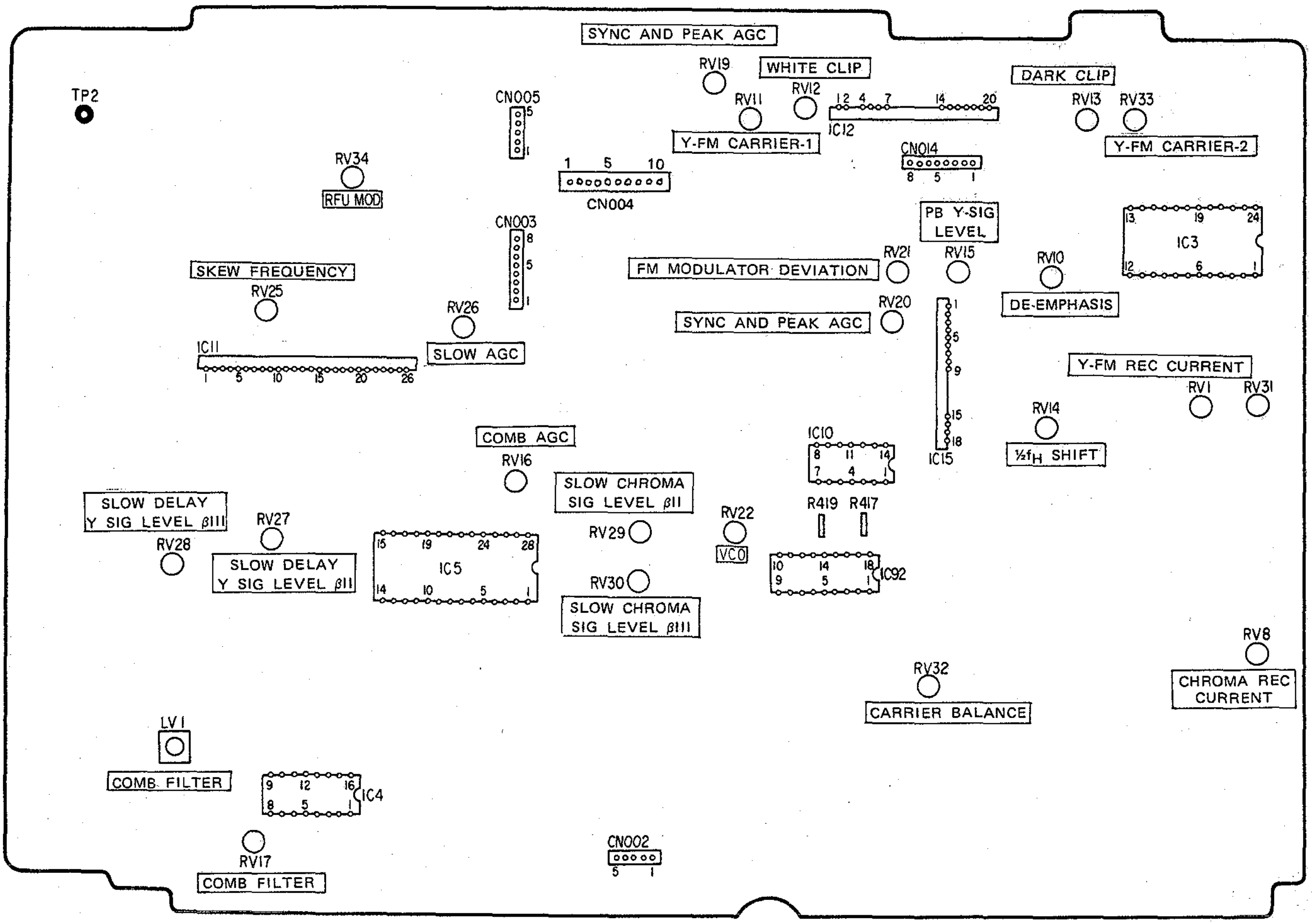
NORM/CATV switch . . . NORM

(1) Input 400Hz ± 15kHz FM (60% depth of modulation) RF signal.

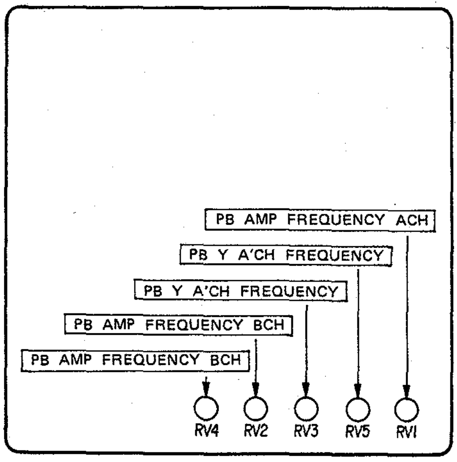
(2) Adjust RV003 until level at MPX terminal becomes 126mV ± 18mVp-p.

Note: With input signal modulation depth at 80%, adjust to 177mV ± 25mVp-p.

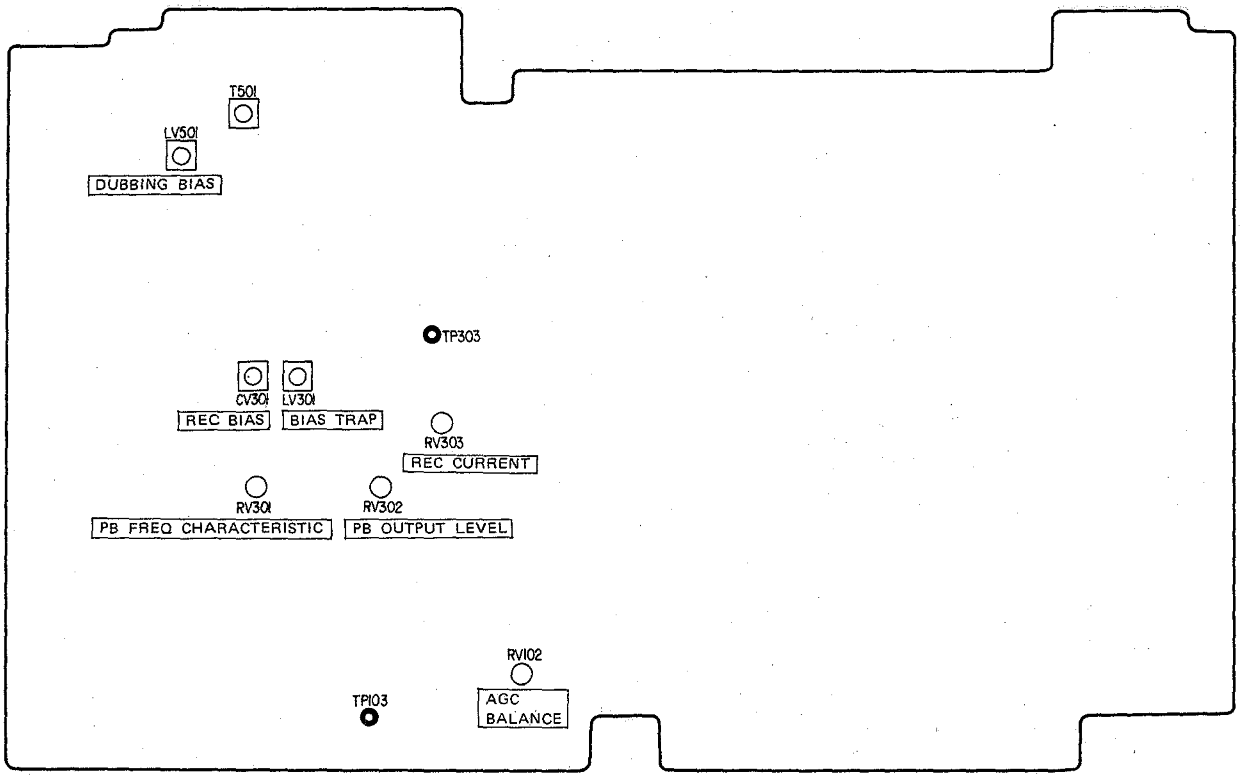
VI-1 BOARD


SYNC AND PEAK AGC
TP2
RV19
WHITE CLIP
DARK CLIP
CN005
RV11
RV12
IC12
RV13
RV33
Y-FM CARRIER-1
Y-FM CARRIER-2
CN014
RV34
CN004
RFU MOD
CN003
PB Y-SIG LEVEL
IC3
SKEW FREQUENCY
FM MODULATOR DEVIATION
RV21
RV15
RV10
RV25
RV26
SYNC AND PEAK AGC
RV20
DE-EMPHASIS
IC11
SLOW AGC
Y-FM REC CURRENT
RV1
RV31
RV14
COMB AGC
IC10
IC15
½fH SHIFT
RV16
SLOW CHROMA SIG LEVEL βII
SLOW DELAY Y SIG LEVEL βIII
RV27
RV22
R419
R417
RV28
RV29
IC5
VCO
IC92
SLOW DELAY Y SIG LEVEL βII
RV30
SLOW CHROMA SIG LEVEL βIII
RV8
RV32
CHROMA REC CURRENT
CARRIER BALANCE
LV1
COMB FILTER
IC4
CN002
RV17
COMB FILTER

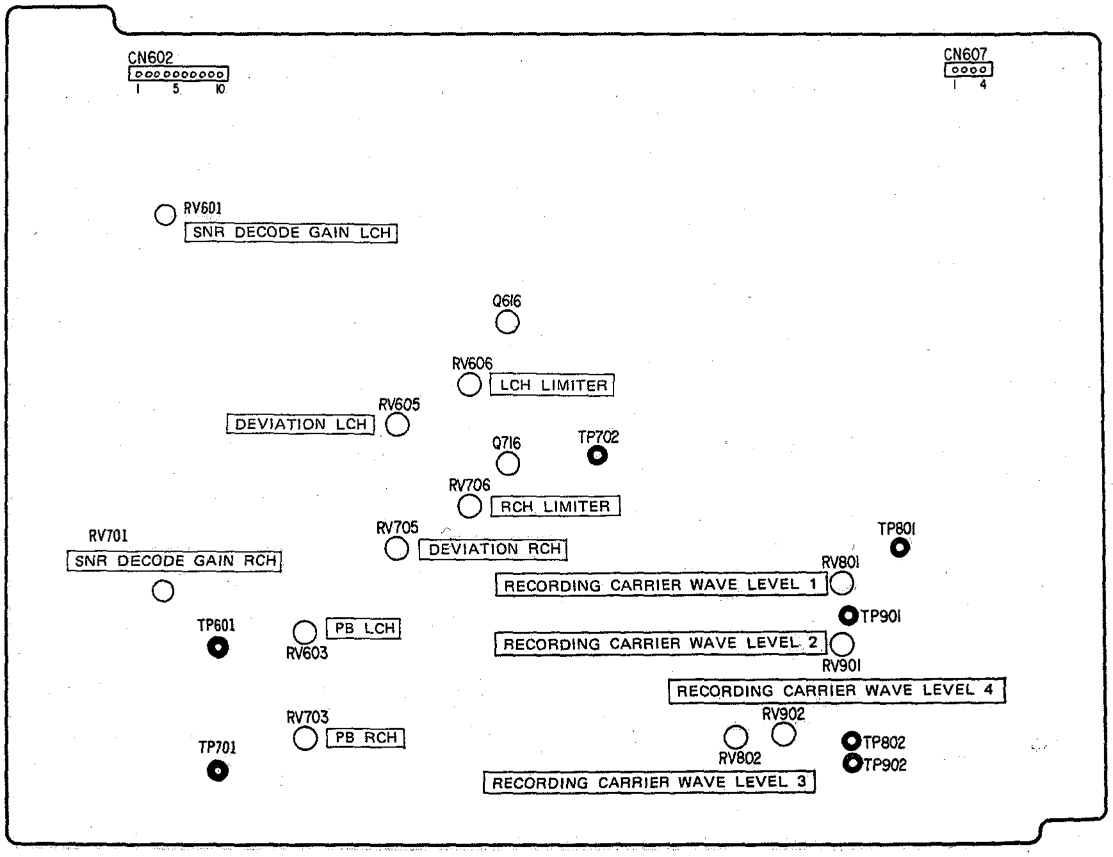
RP-10 BOARD


PB AMP FREQUENCY ACH
PB Y A'CH FREQUENCY
PB Y A'CH FREQUENCY
PB AMP FREQUENCY BCH
PB AMP FREQUENCY BCH
RV4
RV2
RV3
RV5
RV1

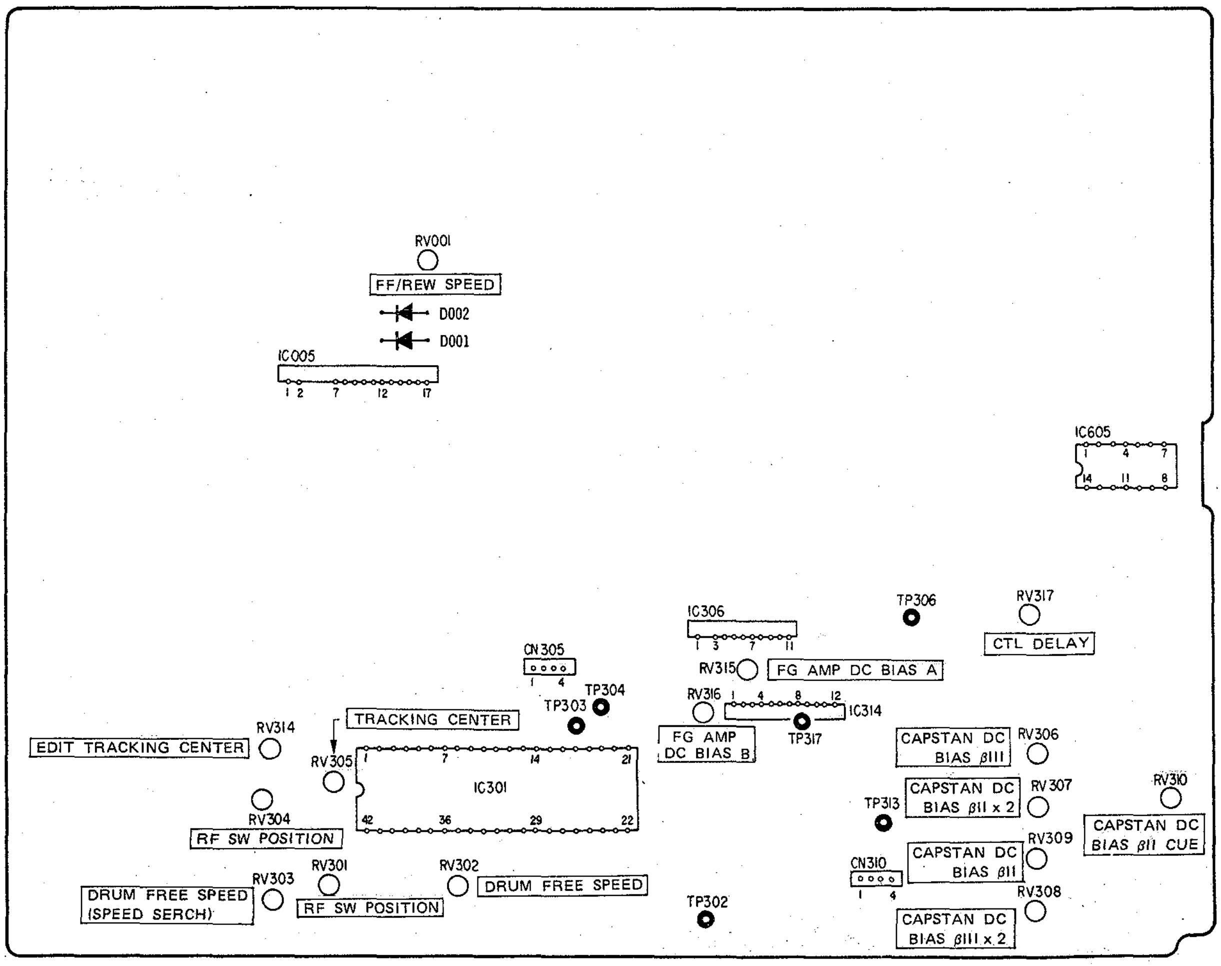
AS-7W BOARD


T501
LV501
DUBBING BIAS
TP303
CV301
LV301
REC BIAS
BIAS TRAP
RV303
REC CURRENT
RV301
RV302
PB FREQ CHARACTERISTIC
PB OUTPUT LEVEL
RV102
TP103
AGC
BALANCE

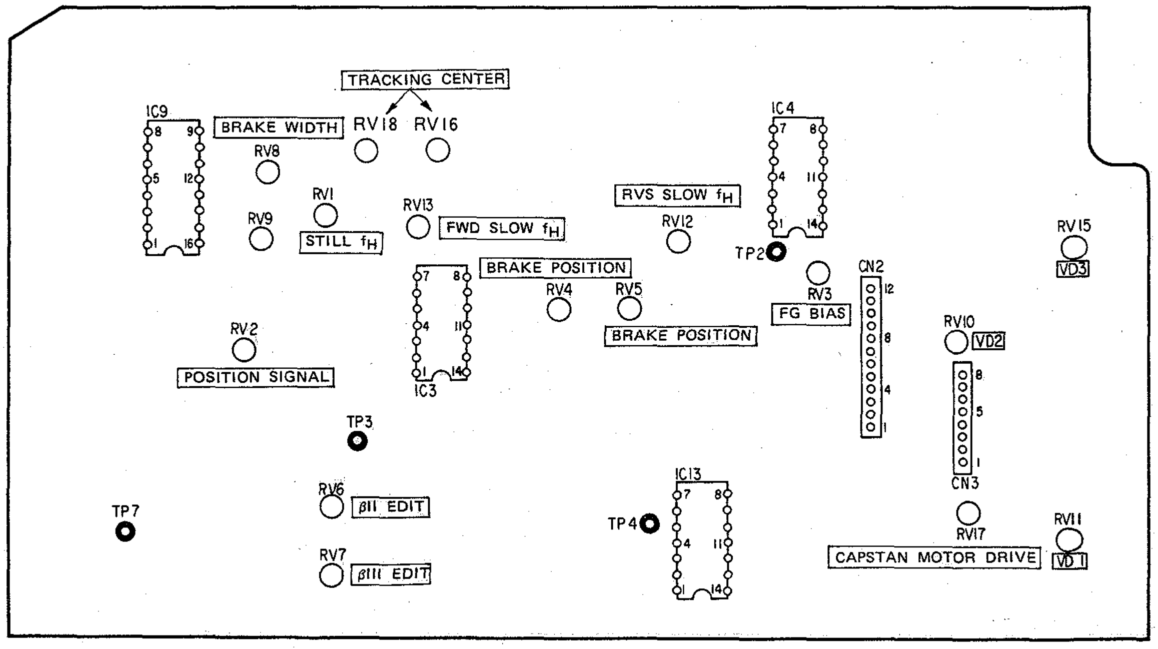
AF-1 BOARD


CN602
1
5
10
CN607
1
4
RV601
SNR DECODE GAIN LCH
Q616
RV606
LCH LIMITER
RV605
DEVIATION LCH
Q716
TP702
RV706
RCH LIMITER
RV705
DEVIATION RCH
RV701
SNR DECODE GAIN RCH
TP801
RV801
RECORDING CARRIER WAVE LEVEL 1
TP901
TP601
PB LCH
RV603
RECORDING CARRIER WAVE LEVEL 2
RV901
RECORDING CARRIER WAVE LEVEL 4
RV703
PB RCH
RV902
TP701
RV802
TP802
TP902
RECORDING CARRIER WAVE LEVEL 3

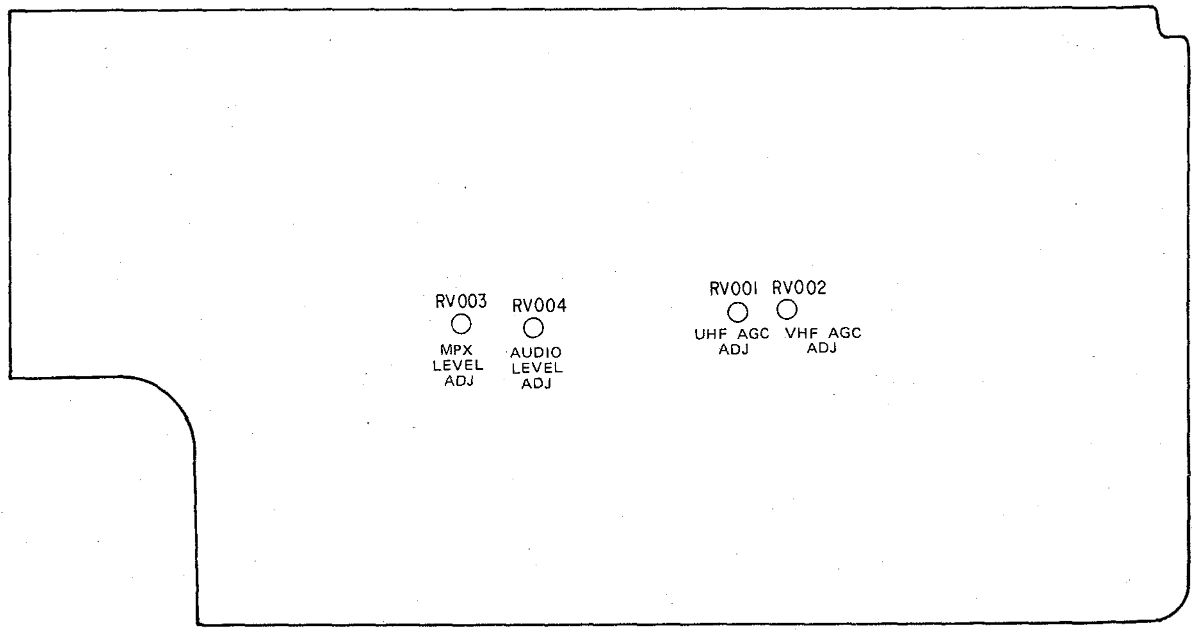
SS-14 BOARD


RV001
FF/REW SPEED
D002
D001
IC005
IC605
IC306
TP306
RV317
CTL DELAY
CN305
RV315
FG AMP DC BIAS A
RV316
IC314
TP317
FG AMP DC BIAS B
TP304
TP303
TRACKING CENTER
RV314
EDIT TRACKING CENTER
RV305
IC301
RV304
RF SW POSITION
CAPSTAN DC BIAS βIII
RV306
CAPSTAN DC BIAS βII x 2
RV307
RV310
TP313
CAPSTAN DC BIAS βII CUE
RV309
CAPSTAN DC BIAS βII
CN310
RV308
CAPSTAN DC BIAS βIII x 2
TP302
RV303
DRUM FREE SPEED (SPEED SERCH)
RV301
RF SW POSITION
RV302
DRUM FREE SPEED

VL-5 BOARD


TRACKING CENTER
IC9
BRAKE WIDTH
RV18
RV16
RV8
RV1
RV9
STILL f_H
RV13
FWD SLOW f_H
RVS SLOW f_H
RV12
IC4
TP2
RV15
VD3
BRAKE POSITION
RV4
RV5
RV3
FG BIAS
CN2
RV10
VD2
RV2
POSITION SIGNAL
IC3
BRAKE POSITION
TP3
CN3
IC13
RV6
βII EDIT
TP7
TP4
RV17
RV11
CAPSTAN MOTOR DRIVE
VD1
RV7
βIII EDIT

TU-33 BOARD


RV003
MPX LEVEL ADJ
RV004
AUDIO LEVEL ADJ
RV001
UHF AGC ADJ
RV002
VHF AGC ADJ